PRINTING PRODUCTION

Production Control Ends Frustration In Publication Plant

What is Left for Commercial Flatbed Letterpress?

Craftsmen's Detroit Convention Report

TV Stage Becomes New Quarters For Typographic Firm

Paper Produced Under Tent During Alaska's Sub-zero Weather
(SEE PAGE 5)

Pass On: _____

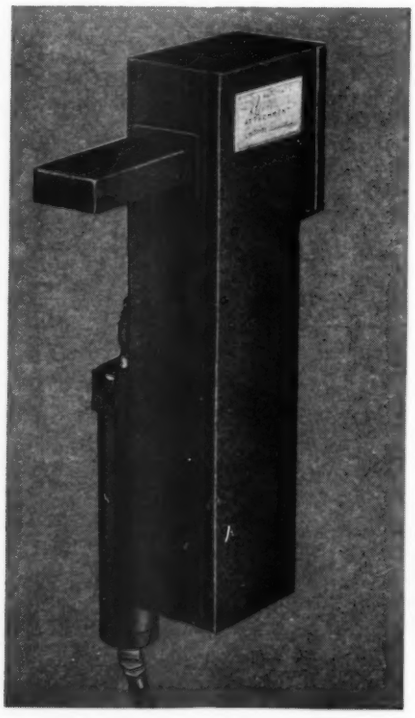
So Simple... and Efficient

Devices for the automatic interruption of an electrical circuit are commonplace. Washing machines and clothes dryers turn themselves off after a particular interval. Clock radios not only automatically turn on but can also start heating the morning coffee.

The Selectro-Matic Quadder Short Line Device is simpler than any of these and is just as efficient. It automatically interrupts the circuit between the quadder controls and the quadding mechanism whenever a line is full enough to justify. It does this by means of a trip finger which closes a Microswitch, cancelling out the quadding function for the casting cycle. This allows the line to justify and cast on full measure.

The Selectro-Matic Short Line Device causes all lines short of full measure to quad automatically, also without operator attention.

This is another example of Star Quadder simplicity through the use of 24-volt electricity. For simplicity you just cannot beat the Star Selectro-Matic Quadder. Write for full details and illustrated brochure.



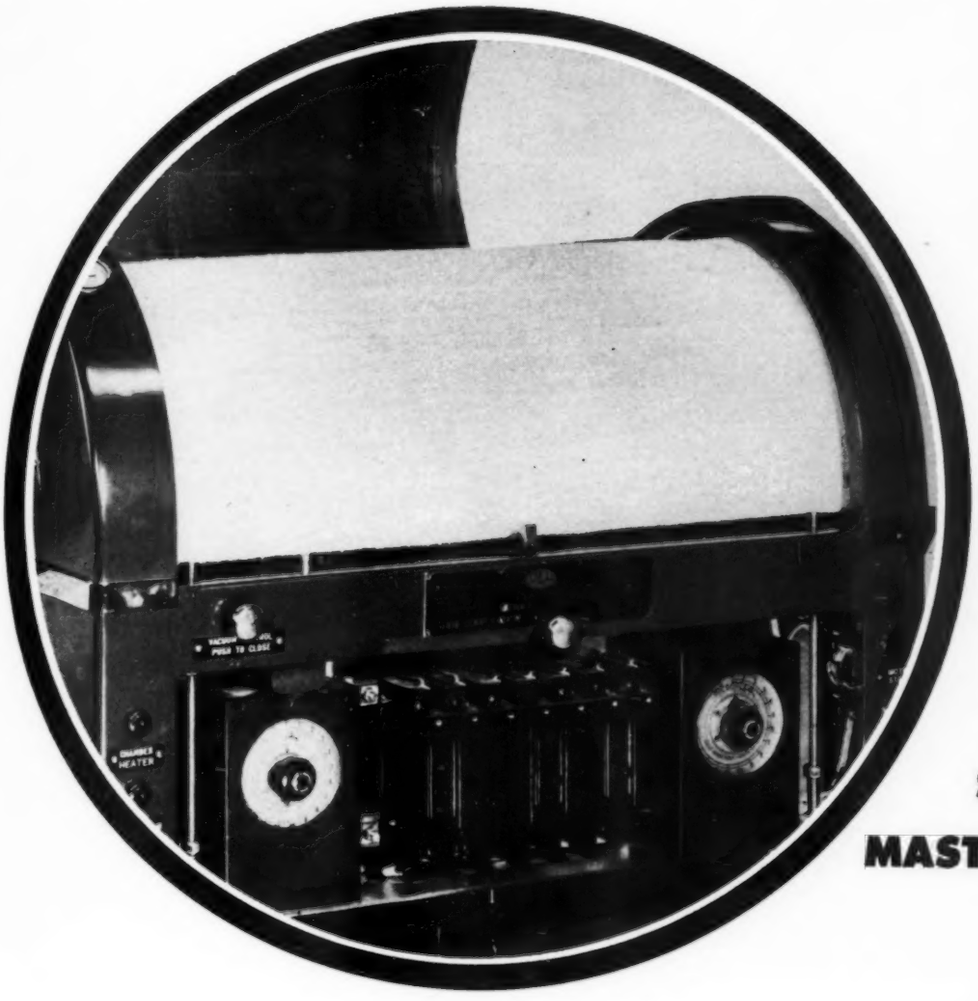
Precision TRADE ★ MARK Parts

STAR PARTS, Inc.
SOUTH HACKENSACK, N. J.

BRANCH: 1327 BROADWAY, KANSAS CITY, MO.
AGENCIES: CHICAGO • MINNEAPOLIS
LOS ANGELES • DENVER • SO. ACTON, MASS.
CANADA: PRINTING MATERIAL LTD.
AND AGENTS OVERSEAS

For More Information Circle 167 on Reader Service Card

If You're Switching to Stereo "Packless Mats" . . . Here's Important Equipment Information



STA-HI
MASTER FORMER

Our own experimental program and reports from newspapers who have adopted the process indicate that if you use any of the several types of "packless mats" now available, they require more time for electric-baking and vacuum-forming.

The short-range electric timers on older model Sta-Hi Master Formers can be replaced with new and improved timers that will give these machines an overall processing cycle of up to twenty minutes.

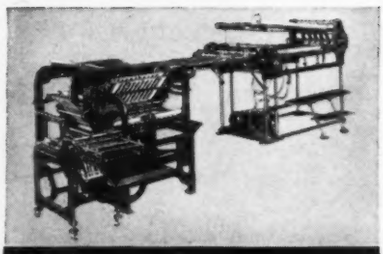
But . . . it might pay you to check your stereotype operation to determine if your present Master Formers will handle this added load, or whether you should install additional equipment to exploit to the full the anticipated advantages of "packless mats" in your production.

Master Formers can still be scheduled for delivery late this year — if your order is placed without delay!

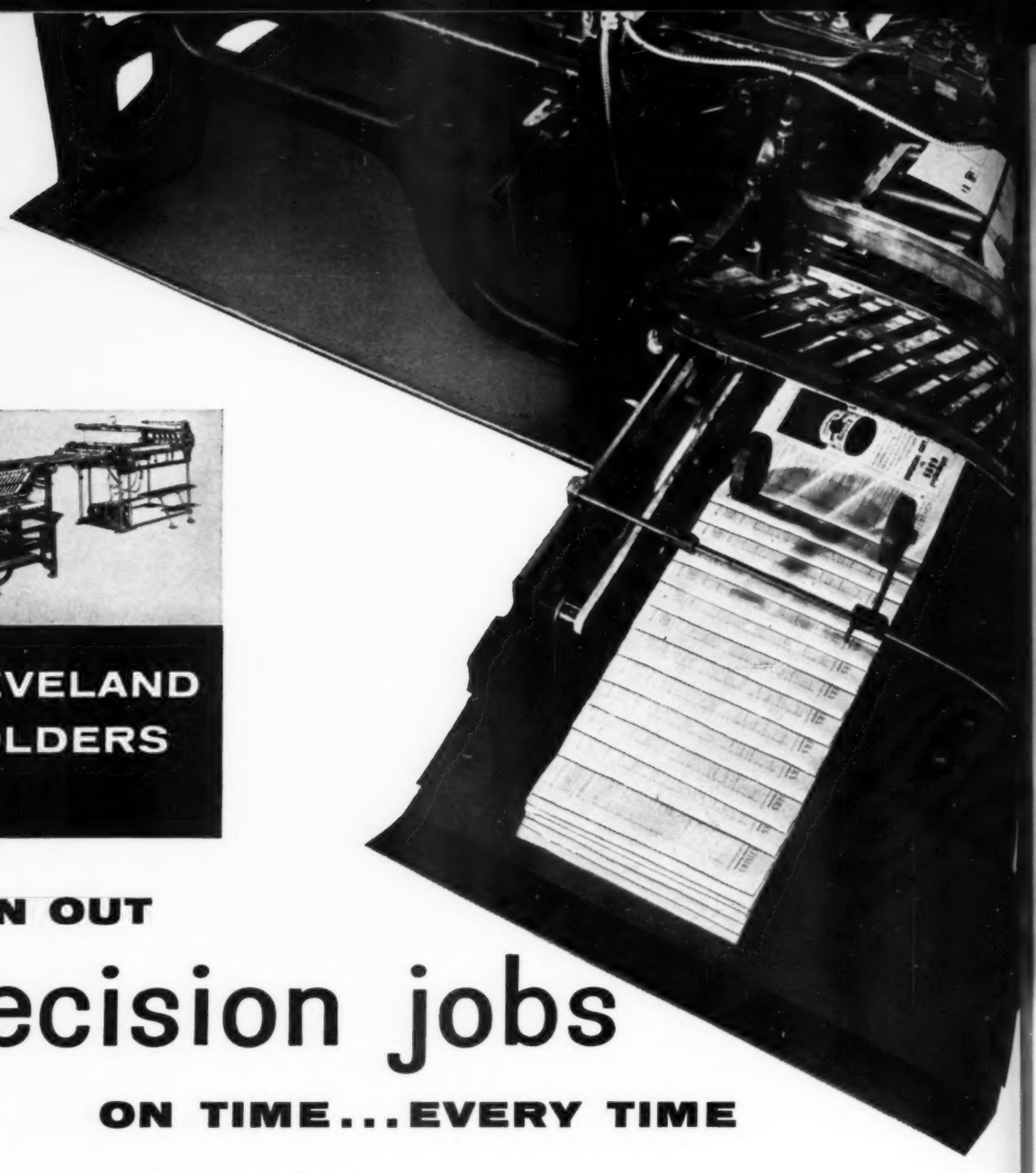
STA-HI CORPORATION

235 W. WASHINGTON BOULEVARD, WHITTIER, CALIFORNIA

For More Information Circle 165 on Reader Service Card



CLEVELAND FOLDERS



TURN OUT

Precision jobs

ON TIME...EVERY TIME

Seven models, all built for precision...for speed, to handle almost every folding problem in every type of operation from the small shop to the big trade bindery—that's the Cleveland Folder line.

Select the folder best suited to your operation. For the small jobs under 14x20″, the Model "WW" offers high production and economy. In the medium range, it's the 25x38″ Model "MS"...and for the big jobs, up to 44x58″, get the fast Model "KK." No matter which of the seven you choose, you can depend on a Cleveland for exacting precision, for low cost operation, and for high speed, on time production. Follow the example of hundreds of printers and binders who have been using Clevelands—(more than 20,000 of them) for years with complete assurance. It may cost a little more, because *it's built better to last longer,* but over the years it will mean more—profitwise. Write for complete information today.

DEXTER FOLDER COMPANY
Division of Miehle-Goss-Dexter, Inc.
219 East 44th Street, New York, New York

For More Information Circle 49 on Reader Service Card

Gift liquor carton printed five colors and varnish on laminated foil, has automatic bottom, lock top, and special removable identification tag made as an integral part of the carton. Kleerwrap Inc., Mundelein, Ill., for Hiram Walker, Inc.

Four colors are used to print on paraffin protected carton. Ends are sealed with heavy application of hot melt plastic adhesive which holds in moisture, keeps out air. Gaylord Container Corp., Div. of Crown Zellerbach Corp., St. Louis, for Luigi's Pizza Frozen Foods.

Reproduction of delicate shades and tones (printed five colors) is in perfect register on carton of Bleached Kraft with Filled Kraft Back. Gaylord Container Corp., Div. of Crown Zellerbach Corp., St. Louis, for Atlas Brewing Co.

Award Winning Packages...

PRINTED ON Champlain PRESSES

From among 8800 folding cartons submitted in the 1958 Carton Competition of the Folding Paper Box Association of America, 100 were singled out as the best of the year. In the Gravure Competition, these cartons won three of the top awards. Each was printed on a Champlain Press.

These are examples of the performance that the industry has come to expect from Champlain printing equipment. Capable of printing on a variety of materials, from heavy boxboard to lightweight cellophane, Champlain Presses meet the requirements of all types of gravure printing.

To contribute to a product's merchandising appeal "on the shelf," its package must sell its quality. Each of the cartons illustrated is an excellent example of a job well done...and a reason why a performance-proved Champlain installation is your best assurance of top performance. 1196

Champlain

Champlain Company, Inc., 88 Llewellyn Avenue, Bloomfield, N.J.
Chicago Office: 7356 N. Cicero Avenue, Chicago 46, Ill.
In Europe: Bobst-Champlain, Prilly-Lausanne, Switzerland

For More Information Circle 38 on Reader Service Card

The new TIRFING

USE THE READER SERVICE CARD FOR MORE INFORMATION

We have processed more than 21,000 inquiries for readers since our Reader Service Department was introduced last year. Take advantage of this free service for additional information. Your inquiry will be sent to the firm for which it is intended within two days of our receiving it.

IT'S EFFICIENT, FAST AND EASY

This postage-paid card is for your convenience in requesting further information on any editorial item or advertisement in this issue of PRINTING PRODUCTION. Circle the number for any item or advertisement and fill in the card completely. Your request will be promptly sent to the firm for which it is intended.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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(This card valid only if used before October 15, 1958 and only if the card is filled out completely.)

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Title or Department _____

Company Name _____

Company Address _____

City _____ Zone _____ State _____

SEPTEMBER '58

FIRST CLASS
PERMIT NO. 2285
CLEVELAND, OHIO

BUSINESS REPLY CARD
No Postage Stamp Necessary If Mailed In the United States

POSTAGE WILL BE PAID BY

PRINTING PRODUCTION
1276 West 3rd Street
CLEVELAND 13, OHIO

READER SERVICE DEPARTMENT

FOR YOUR CONVENIENCE . . .

This postage-paid card is for your convenience in requesting more facts on any item in this issue.

SEPTEMBER 1958
VOL. 88, NO. 12

PRINTING PRODUCTION

formerly PRINTING EQUIPMENT *Engineer*

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in all major processes of the Graphic Arts industry.

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Accepted as Controlled Circulation Publication at Cleveland, Ohio.

OUR COVER: We don't mean to be rushing the reminder that cold weather is on the way, but it was 10 deg. below zero outside when the front cover picture was taken in the composing room of the Fairbanks (Alaska) *News-Miner*. The unusual production setting came as the result of a fire which hit the newspaper. Water from fire hoses poured on the gutted upper floors presented a problem to continued operation of the first floor composing room. It was quickly solved by erecting a plastic tent over the linecasting machines. Operators Cal Sunderland and his brother, Don, donned waterproof parkas for protection from the wetness while Linotype service engineer, Hal Dawson (background), worked on machines. Photo courtesy of *Linotype News*.

What's going on at

Typographic Service, Inc., Philadelphia, credits a major volume upturn to its battery of four Intertype Fotosetters. Not only has the new phototypesetting volume been important, but the broader service now offered has enhanced Typo's Intertype hot-metal department as well.

Photographed at Connecticut General Life Insurance Company, Hartford, Conn.

This is a cute trick – and only the Macey Stitch-A-Fold can do it. The trick . . . feed collated flat sheets or signatures, saddle stitch at the center and add final fold at the stitch. The Stitch-A-Fold, shown here attached to a Macey collator, is a new addition to Macey's revolutionary line of bindery equipment.

Twice winner of a Harris-Intertype scholarship, Richard L. Smith, 21, Cleveland, receives congratulations from H-I president, George Dively. Now a senior at Rochester Institute of Technology, Dick is earning his B.S. in Printing and Publishing Plant Administration. This is one of six scholarships Harris-Intertype offers.

HARRIS-INTERTYPE

Recession? Not at Empire Color Lithographers, Inc., of New York City. They've been running round the clock five days a week for eight years. Here a 6-color greeting card job is inspected in their pressroom. Four colors are run on their Harris 477, two more on a Harris 277.

Split-second timing is needed on tight music broadcasts. KTSA, San Antonio — a McLendon station — does it with the Gatesway console and four Gates CB-100 3-speed turntables. While one is on air, three are standing by with records already cued for perfect continunity. Harris' Gates Radio subsidiary builds this fine broadcasting equipment.

HARRIS-INTERTYPE CORPORATION

General Offices: 55 Public Square, Cleveland 13, Ohio

Harris Presses • Intertype Typesetting Machines • Cottrell Presses • Seybold Cutters
Macey Collators • Harris Chemicals and Sensitized Plates • Gates Broadcasting Equipment

HARRIS
INTERTYPE
CORPORATION

Lithographed in U.S.A. on a Harris offset press

NEWS ITEMS

Oxy-Dry Names Manager—Gordon W. Wilson has been appointed sales and advertising manager for Oxy-Dry Sprayer Corp. He will be in charge of all advertising activities relating to the firm's Graphic Arts products.

WILSON

BLACK

Intertype Promotion—Norman A. Black has been appointed assistant to Raymond B. Daigle, vice president-domestic sales, Intertype Company. Black was formerly assistant to the manager of Intertype's Eastern district office.

Open Cincinnati Sales Office—West Virginia Pulp and Paper Co. has announced the opening of a sales office at 4555 Montgomery Rd., Cincinnati 12, O. Office will sell direct to buyers of printing papers in the Kentucky, Indiana, West Virginia and Ohio area. Manager of the new office is John B. Trethaway.

Fairchild Acquires Acme Telectronix—Purchase of the assets of Acme Telectronix Div., NEA Service Inc., Cleveland, by Fairchild Camera and Instrument Corp. has been announced. Assignment of major product development and marketing responsibilities to Fairchild Graphic Equipment Div. will result with the acquisition. Acme Telectronix designed and manufactured all telephoto and facsimile transmitters used by United Press Intl. and NEA Service, produced similar equipment for military use, and has undertaken a program of leasing facsimile systems to industry, according to J. A. V. Hyatt, general manager, Fairchild Graphic Equipment Div. Further development of the color scanner and utilization of phototransmission systems by press services and news media will be assumed by Fairchild Graphic Equipment Div. Operations will be integrated into Fairchild's Long Island, N. Y. facilities. Price was not disclosed.

Macey Appointments — Two additional men have been added to the Chicago sales staff of Macey Company, sub. Harris-Intertype Corporation, according to C. F. Shaffer, general sales manager. Frank B. Willis has been named Midwestern district manager. He was formerly with Harris-Seybold division of Harris-Intertype. Appointed Chicago sales representative is Thomas F. Morrison, most recently with Harris-Seybold's special products sales staff.

WILLIS

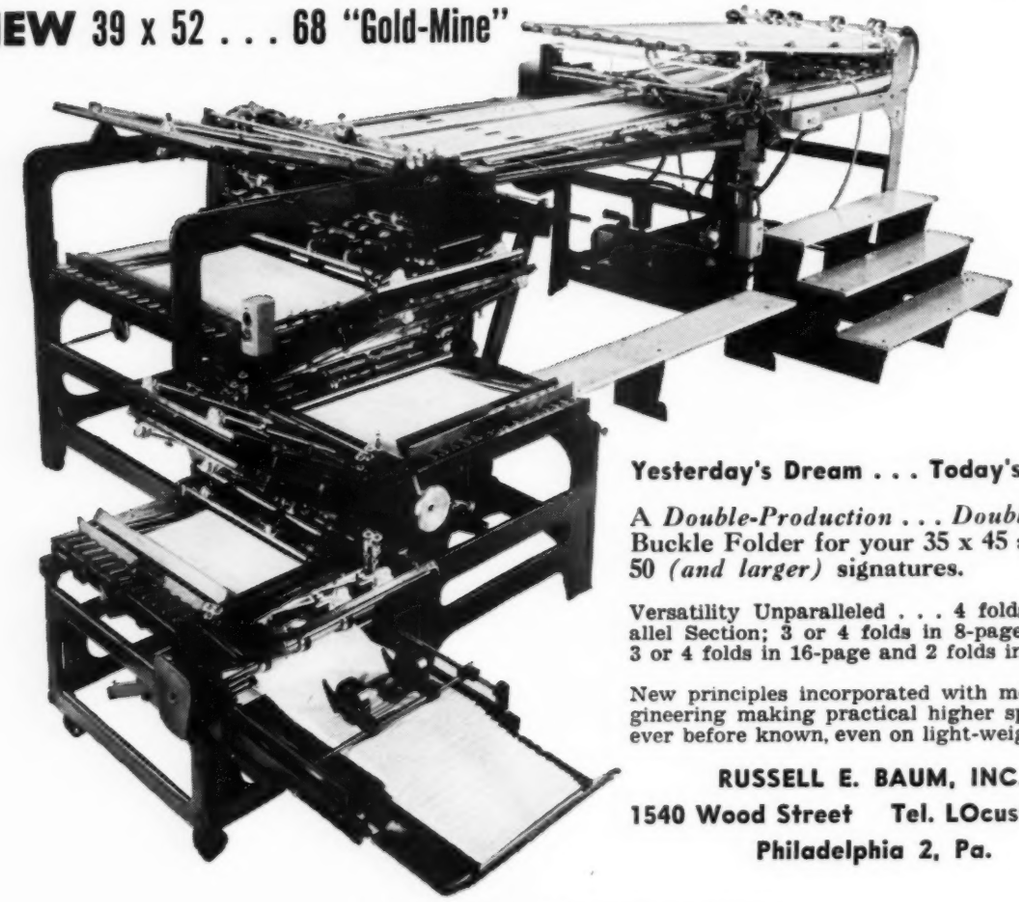
MORRISON

Riegel Appointment—Raymond M. Steinhauser has been named supervisor of Sales Service according to an announcement by Riegel Paper Corp. He was most recently an administrative assistant, Packaging Materials Sales, New York, N. Y. office.

Embossograph Names Two Representatives—Embossograph Process Co., Inc. reports appointment of two sales and service representatives for the Midwest and West Coast. The firms are Advance Process Supply Co., Inc., 2315-2321 W. Huron St., Chicago, and the Steward Company,

(*Continued on Page* 12)

NEW 39 x 52 . . . 68 "Gold-Mine"



Yesterday's Dream . . . Today's Reality

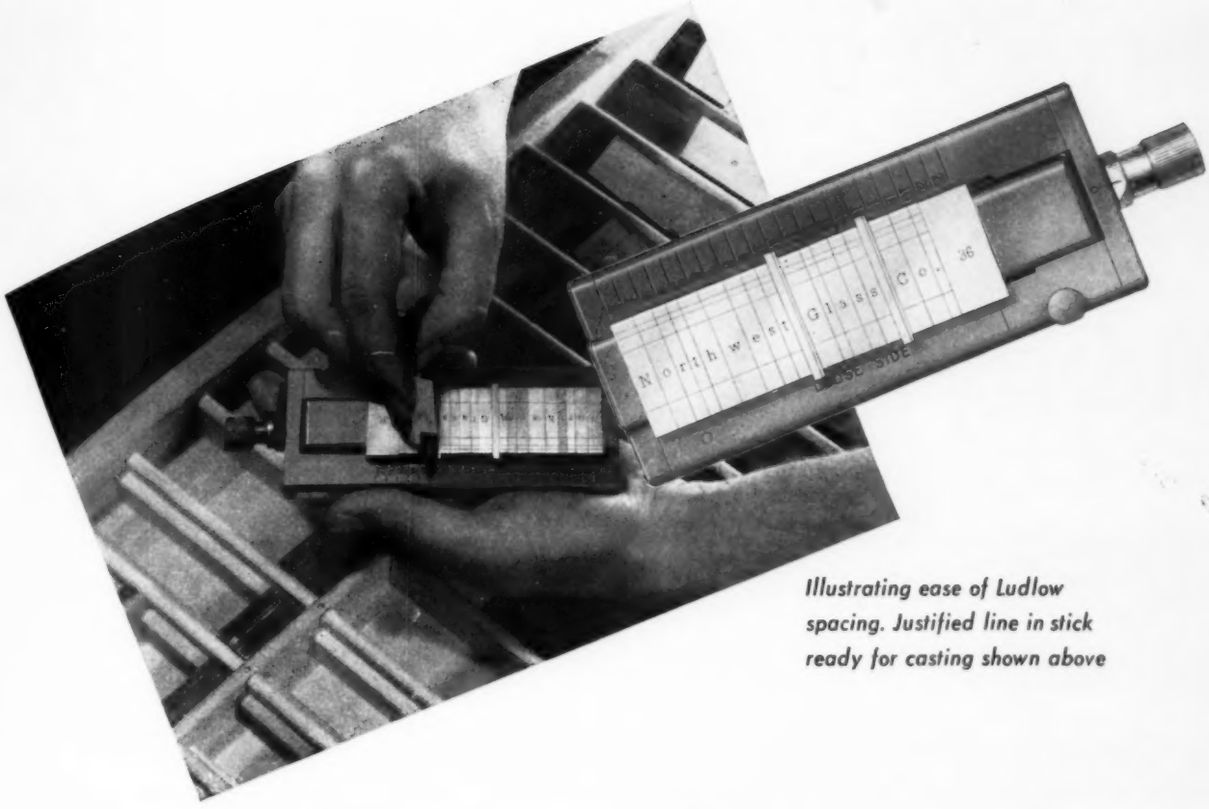
A *Double-Production . . . Double-Profit* Buckle Folder for your 35 x 45 and 38 x 50 *(and larger)* signatures.

Versatility Unparalleled . . . 4 folds in Parallel Section; 3 or 4 folds in 8-page Section; 3 or 4 folds in 16-page and 2 folds in 32-page.

New principles incorporated with modern engineering making practical higher speed than ever before known, even on light-weight stock.

RUSSELL E. BAUM, INC.
1540 Wood Street Tel. LOcust 8-4470
Philadelphia 2, Pa.

For More Information Circle 8 on Reader Service Card



Illustrating ease of Ludlow spacing. Justified line in stick ready for casting shown above

Ludlow Spacing

is easily and readily done

With the Ludlow, the printer obtains all the values of hand spacing that go to make a good job of composition. Ludlow spaces are the easiest units to get at and to handle, as the "ears" of the flat, ample-sized space matrices extend beyond those of letter matrices. The line is quickly and easily spaced out, and the compositor can readily determine visually if the spacing is correct between words and letters. Even thin spaces are quickly inserted or removed, and letterspacing is an easy operation. There is also no "spacing tight to lift," as a turn of the screw tightens the line for casting. Efficiency in spacing is one of the reasons why Ludlow composition goes up so readily, without lost motion.

Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14

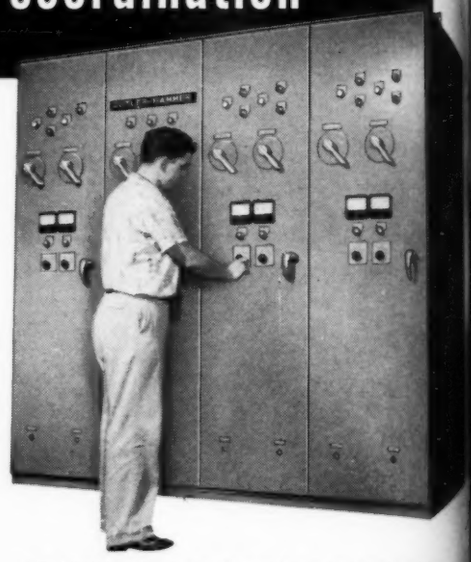
Set in members of the Ludlow Tempo family

For More Information Circle 107 on Reader Service Card

New Cutler-Hammer D-c Press Drives and Control set new standards in operational efficiency and dependability

New Cutler-Hammer D-c Webmaster Unit Press Drive provides complete unitization and coordination

Those who have seen the new Cutler-Hammer D-c Webmaster in action are saying, "This is by far the most marvelous unit press drive in the market today," and you'll say so, too, when you compare its many outstanding features with any other drive system. Every Webmaster unit has its own source of power, its own heavy-duty silicon rectifiers which provide the D-c current for the drive motor, and its own trouble-free magnetic amplifier type control all enclosed in a heavy gauge steel cabinet. Each Webmaster Unit is completely independent, and yet any combination of units can be grouped to meet changing make-up requirements by simply setting handy selector switches; the combined units then operate in perfect synchronization. Other outstanding features include infinitely variable speed control of the D-c drive motors from threading to running speed . . . "trip-locators" which automatically pinpoint situations needing attention . . . static control components that outlast all others and are easily serviced without specially trained personnel. Write today for detailed information on the world's newest and finest unit press drive system . . . the Cutler-Hammer D-c Webmaster.



For the very latest in D-c unit press drives and control, it's the all new Cutler-Hammer D-c Webmaster. Every unit is completely independent and yet any number of units can be grouped according to the make-up requirements by simply setting handy selector switches.

CUTLER-HAMMER
CONTROL
C-H

Dept. S277
Cutler-Hammer Inc.
Milwaukee 1, Wis.

Cutler-Hammer Inc., Milwaukee, Wis. *Division:* **Airborne Instruments Laboratory.** *Foreign:* **Cutler-Hammer International, C. A.**
Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer Mexicana, S. A.; Intercontinental Electronics Corporation, Inc.

For More Information Circle 47 on Reader Service Card

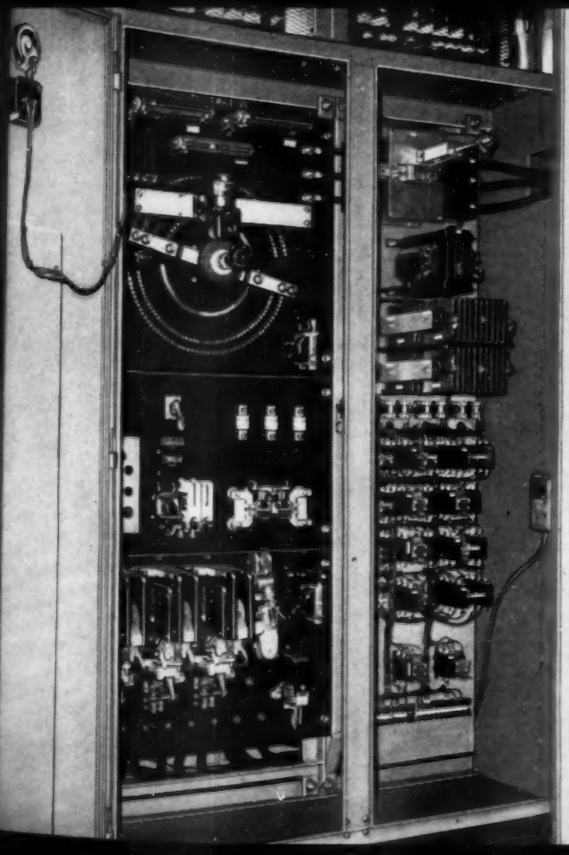
New Cutler-Hammer D-c Group Drive provides ultra-smooth press performance at the Beloit Daily News

Here's important news for all newspaper publishers and engineers . . . the all new Cutler-Hammer D-c Group Drive and Control is setting new records for performance and economy at the *Beloit Daily News*, Beloit, Wisconsin. This revolutionary drive system uses the commercially available A-c power, converting it to D-c with heavy-duty silicon rectifiers which require no special cooling or attention. The 6 unit—1 folder press is driven by two 75 hp D-c motors and the pressmen report excellent speed control all the way from threading speed to top running speed (40,000 iph). By comparison there's nothing on the market to equal this new Cutler-Hammer D-c Group Drive and Control in performance, economy, and dependable operation. Cutler-Hammer D-c Group Drives are available in all sizes through 100 hp. Be sure you have all the facts before installing new presses or remodeling existing facilities. Write today.

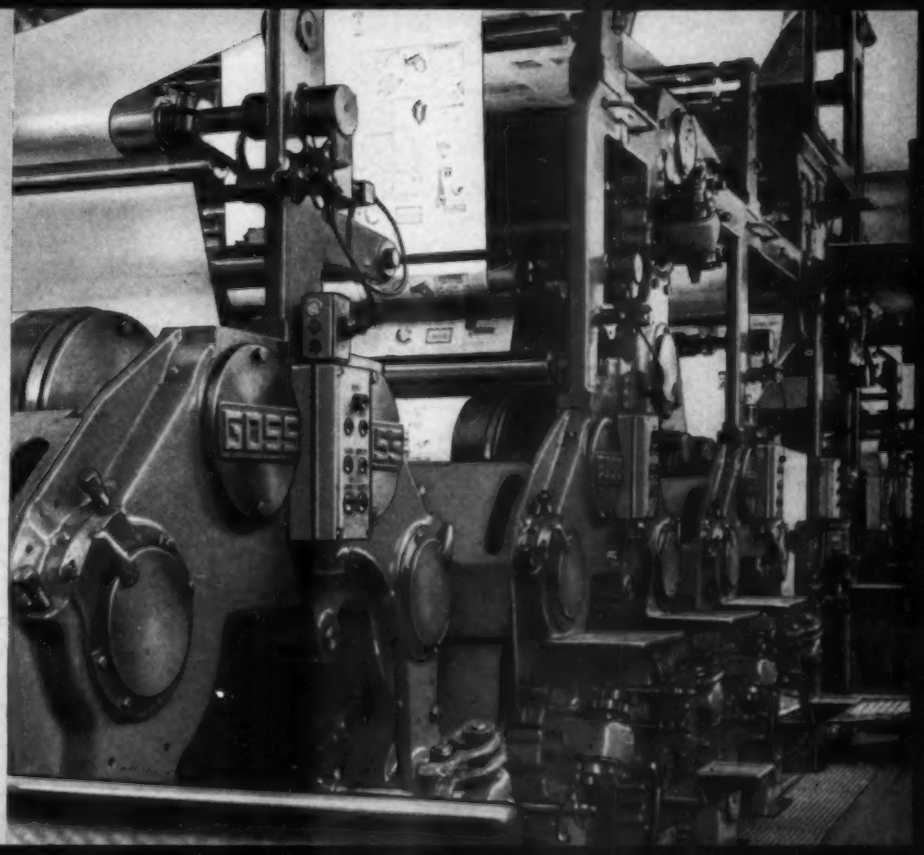
"We are proud to have industry's first magnetic amplifier type D-c drive on our new press installation. The pressmen and I are very pleased with its performance."

W. A. Strong, Publisher,
Beloit Daily News.

The new Cutler-Hammer magnetic amplifier type, adjustable speed, D-c Group Drive and Control provides smooth, trouble-free press performance, and improved efficiency.



Now in daily operation—the new 6 unit—1 folder press at the *Beloit Daily News* is equipped with the all new Cutler-Hammer D-c Group Drive.



News Items

(Continued from Page 8)

1701 W. Pico Blvd., Los Angeles. The firms will carry Embossograph powders and inks and its raised printing machinery.

James R. Dawley, retired manager of Penton Press Div., Penton Publishing Co., Cleveland, died at his home July 31. He joined Penton Press in 1916 and a year later became manager. His retirement in 1956 marked 52 years of active participation in the printing industry. He had served as a director, United Typothetae of America.

New York University has reported that Edward F. Benyoung has been named manager of the University Print Shop at NYU. He was formerly plant superintendent at New York, N. Y. and Chicago plants of Checkmaster, Inc. He succeeds John J. Winters who was with NYU for 40 years.

ATF Typesetter Product Managers—Dorsey E. Biggs and Jack R. Hubbs have been named ATF Typesetter product managers, according to John T. Porter, sales manager, Sheet-fed Div., American Type Founders Co. Biggs will operate from

BIGGS

HUBBS

ATF's Atlanta (Ga.) branch and will cover the southern states from Virginia and Florida to Texas and Oklahoma, including Kentucky, West Virginia and parts of Ohio and Indiana. Hubbs will work from the San Francisco branch and will cover the Los Angeles territory and the states of Oregon, Washington and Nevada.

Robertson Bros. to Relocate—Robertson Bros., Inc. is moving its plant and offices to a new location in Englewood, N. J. Two buildings on several acres of land have been purchased. One building has been leased, and the other, containing 5000 sq. ft. on one floor, will be converted to the use of the firm.

Donnelley Executive Dies—John E. Grice, 46, senior vice president in charge of manufacturing, R. R. Donnelley and Sons Co., Chicago, died suddenly on July 14 at his home in Crystal Lake, Ill. Grice had been associated with the Donnelley firm for 23 years. He is survived by his wife, Virginia, a son and three daughters.

MORROW

Herbert Morrow, jr. has joined Editor's Press, Washington, D. C., as general manager. The all lithographic plant is a subsidiary of the Kiplinger organization. Morrow graduated from the Department of Printing, Rochester Institute of Technology, Rochester, N. Y., in 1948. He has served as production manager, Laurance Press Co., Cedar Rapids, Ia.; research administrator and assistant to head, Graphic Arts Research Dept., Rochester Institute of Technology, and most recently as plant manager, Graphic Arts Div., Technicolor Corporation, Hollywood, Calif.

Pittsburgh Firm Promotes—Service Electrotype Co., Pittsburgh, Pa., has appointed William H. Joel as executive vice president. Joel has been with the firm 11 years. Also announced was the appointment of Kenneth Simpson as plant manager.

New York & Penn Promotes—New York & Pennsylvania Co., Inc. recently reorganized its sales department, it was announced by Peter S. Paine, president. Marshal M. H. Dana, formerly manager of sales, has been named to the new

DO THE WORK OF HOURS *in Minutes!*

SLASH YOUR PRINTING COSTS WITH THE

Rouse

POWER MITERER

If you need miters in either small or large quantities, no other machine nor method can turn out anywhere near as many perfect joining miters so quickly from strip material. That's how the Rouse Power Miterer can slash your printing costs by doing work in minutes that now takes you hours.

A Rouse Power Miterer won't cost you one cent! Printers the world over say that money paid for a Rouse Power Miterer quickly comes back through tremendous savings in expensive time. After getting your money back, you'll start collecting daily dividends from permanently lower operating costs.

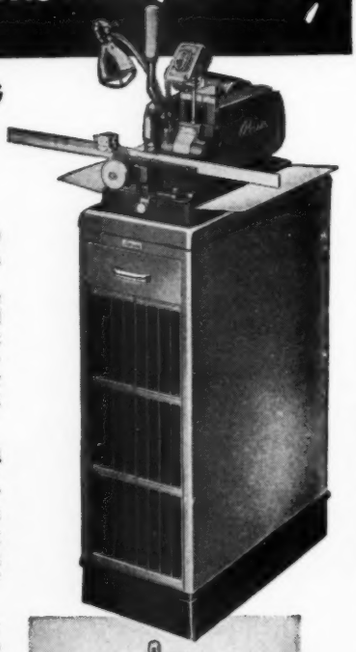
FROM THE SMALLEST JOB SHOP UP TO THE LARGEST PLANT, ONLY ROUSE MAKES A POWER MITERER FOR EVERY TYPE OF USE.

You may buy any Rouse Power Miterer as a bench model or with any other equipment you wish.

Virtually every printing plant in the world uses one or more Rouse products.

NEW ROUSE CATALOG

Write for your copy TODAY!



800 Miters in 45 minutes

H. B. ROUSE & COMPANY

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ROUSE PRODUCTS — THE STANDARD OF THE WORLD FOR 50 YEARS

MITERING MACHINES
LEAD and RULE CUTTERS
COMPOSING STICKS
TYPE GAUGES
SLUG CLIPPERS
BAND SAWS

For More Information Circle 152 on Reader Service Card

60" 66" 69"

New... LAWSON Pacemaker Hydraulic Clamp Cutters

More than 60% faster and 20% heavier than comparably sized machines, these amazingly accurate Lawson Pacemaker Cutters are really new from the ground up! Adjustable center bearing on knife bar... adjustable gibs... rear table-slot closing device... performance-proved hydraulic clamping... built-in air cushion device... truly flexible Adjustable Contour Clamp... exclusive electronic spacing to .002"... no other cutter offers so many profit-stretching advantages! The Lawson Pacemaker Cutters are as modern as tomorrow. Write, wire or phone for full details, today.

THE LAWSON COMPANY
Division of Miehle-Goss-Dexter, Inc./Pearl River, New York

DANA

BRIGGS

position of director of marketing. He will plan, organize, and direct all marketing activities and establish objectives and policies. Walter Briggs, formerly a sales and service representative, has been named sales manager. Dana and Briggs are located at the firm's headquarters at 425 Park Ave., New York, N. Y.

Champion Paper's Organization Expands—The Champion Paper and Fibre Co., Hamilton, O., through President Reuben B. Robertson, jr., announced further moves in its continuing program for development and growth. These moves are in manufacturing, converting, distribution, timber products and generally management fields.

Dwight J. Thomson assumes a larger role in the office of the president as executive vice president for Personnel and Public Relations. Broader responsibility is being assigned to Henry W. Rigby, who becomes executive vice president for Corporate Development. Herbert T. Randall has been named senior vice president for Licensing and Special Projects. He will administer Champion Paper, Ltd., Switzerland, and continues as vice president of the Research Div. Robert C. Haynie has been appointed vice president for planning. A. S. Anderson becomes Dir. of Personnel Adm. on the general office staff.

In addition to three manufacturing divisions at Hamilton, O., Canton, N. C., and Pasadena, Tex., Champion has had two operating divisions. These are the Research Div. and the Paper Sales Div. Four new operating divisions now being established are Pulp and Paper Mfg., Paper Converting, Paper Distributions and Timber Products.

The Pulp and Paper Mfg. Div. will be under the direction of Vice Pres. Karl R. Bendetsen. Assisting him and heading the expanded Customer Service Organization will be Vice Pres. John W. Zimmerman.

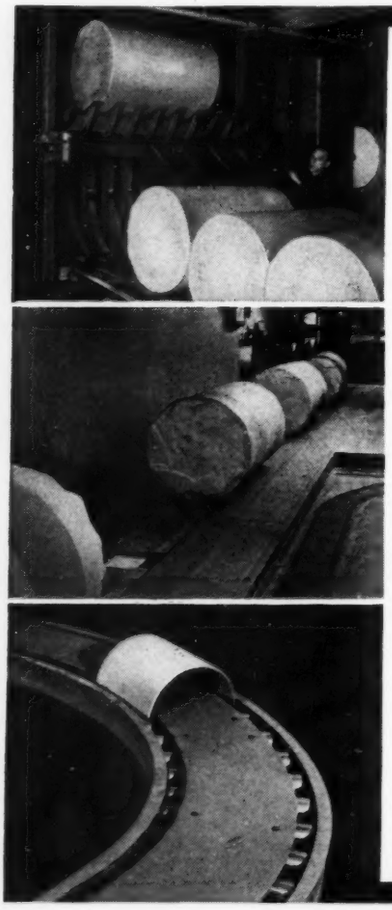
Leo Geiser, who has served as director of general production, has been named vice president and Ohio Div. Mgr. A. M. Fairbrother has been appointed vice president and manager of the Carolina operation. Stephen Chase, jr., will continue as vice president and Texas Div. Mgr.

As general manager of the Paper Converting Div., Henry W. Rigby will direct paper converting subsidiaries and represent Champion in affiliated companies. In the new division known as Paper Distribution, H. W. Suter will also serve as general manager. A. W. Nelson, jr., has been named general manager of the new Timber Products Div.

Nelson of Monotype Retires—George E. Nelson, manager, Eastern district sales office, Lanston Monotype Co. was honored recently on the occasion of his retirement at a dinner held at Hotel Sheraton, Phladelphia. He is succeeded by Stanley E. Sims. Pictured, left to right, are, Fred J. Nelson, son; Nelson; Sims, and George E. Nelson, jr., son.

United Catalog Publishers Appoints—David Saltman has been named manager of the printing division of United Catalog Publishers, Inc., Hempstead, N. Y., also known as Hempstead Press, Inc. He has had wide experience in the publishing industry and was recently an instructor in production techniques at New York University.

Celebrates 40th Anniversary—Von Hoffman Press, Inc., St. Louis, Mo., recently



Prime mover for
NEWSPRINT ROLLS OR STEREOPLATES

Up...down...or horizontal—whatever your conveying problem, there's a Gifford-Wood unit or system *already in use* that comes close to meeting your problem.

For years G-W has solved big specialized handling jobs for newspaper plants. Electric and pneumatic drops and lifts for newsprint rolls (top photo)...horizontal conveyors...and automatic interfloor handling systems for stereoplates (bottom) have all been built and installed in the plants of daily newspapers and leading printers. And all are operating successfully today, with speed, efficiency, savings, and complete protection for paper rolls and stereos.

Ask a good engineer about Gifford-Wood conveying systems for newsprint, stereos, magazines, mail sacks, bundles, or broke. Then write for full details on actual G-W installations.

Write today for G-W's new brochure on engineered materials handling systems for the paper and printing industries. Or ask your nearest G-W office.

GIFFORD-WOOD CO.

Since 1814 • Hudson, New York

New York 17, N. Y. 420 Lexington Ave. • **Cleveland 20, O.** 3537 Lee Road • **Chicago 6, Ill.** 565 W. Washington St. • **St. Louis 1, Mo.** Railway Exchange Bldg.

For More Information Circle 71 on Reader Service Card

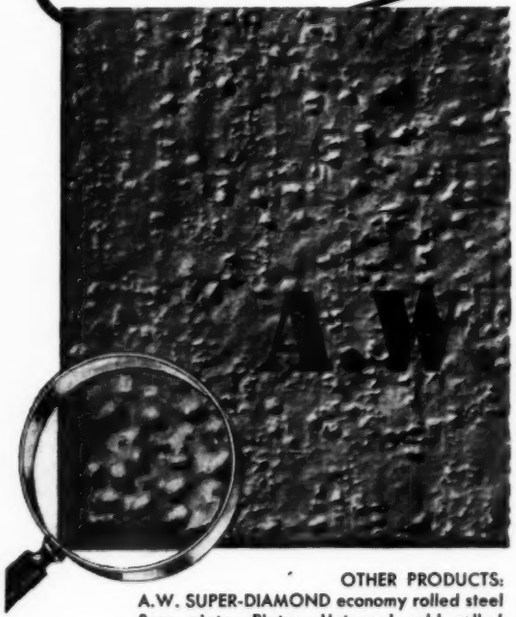
Ma'm'selle has not made the slip once, since she installed A. W. ALGRIP!

Other slips . . . maybe, but never one on A.W. ALGRIP. Ma'm'selle has learned that A.W. ALGRIP won't slip . . . no matter how wet the surface. And if Ma'm'selle owned your plant, no doubt she would install A.W. ALGRIP . . . all ze way aroun'! There are many advantages.

Yes, anywhere you install A.W. ALGRIP, you can forget about slippery surfaces. Hazardous slipping conditions disappear. Work efficiency increases while accident rates and insurance costs drop.

A.W. ALGRIP Rolled Steel Floor Plate is made by a patented process in which a grinding wheel type abrasive is rolled—*not coated*—to a controlled depth, as an integral part of tough steel plate. Wear merely exposes more abrasive . . . safety lasts for the life of the installation.

Check your plant for slipping hazards. A.W. ALGRIP provides super-safe footing under the most hazardous conditions—even on inclined surfaces. Send coupon for A.W. ALGRIP information, today.



ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE

ALGRIP—*approved for safety by Underwriters' Laboratories*

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.

Please send A.W. ALGRIP Booklet AL-E30

Name_____

Title_____

Company_____

Address_____

City_____ Zone_____ State_____

OTHER PRODUCTS:
A.W. SUPER-DIAMOND economy rolled steel floor plate—Plates—Hot and cold rolled sheet and strip—(Alloy and Special Grades)

For More Information Circle 4 on Reader Service Card

celebrated its 40th anniversary, it was announced by George Von Hoffman, chairman of the board. From a 20,000 sq. ft. building, the firm has expanded its quarters to two plants which occupy 250,000 sq. ft. of floor space. The company produces publications, journals, catalogs and books.

Two ATF Typesetter Servicemen—Elmer Moritz and Leon Ziolkowsky have joined American Type Founders Co., Inc., as service representatives for the ATF Typesetter, it was reported by Harry E. Stoddard, Typesetter product manager. Moritz will operate from the San Francisco branch and Ziolkowsky will work from the Chicago branch.

books

What the Lithographer Should Know About Paper

The second edition of Lithographic Technical Foundation's book entitled *What the Lithographer Should Know About Paper* has been issued. Purpose of the book, says its author, Robert F. Reed, is to bring together all the technical information on paper that can be helpful to lithographers and to lithographic paper and paperboard manufacturers. Its study should be of considerable help to practical men in avoiding and remedying paper troubles.

The first edition of the book was published in 1949. LTF says its popularity by virtue of its usefulness among people concerned with the lithographic process resulted in Author Reed rewriting the book's contents. Of special interest to many will be the expanded information on paper troubles, handling paper in the pressroom, and practical paper testing.

Among the paper troubles dealt with in one chapter are: Linty paper, picking, blistering and splitting, hickies and spots, piling, wrinkling and misregister, curl, offsetting, ink doesn't dry properly, scumming of printing plates, and many more.

There are also chapters on: Requirements for Printability of Offset Paper, Paper Properties versus Printing Quality, Handling Paper in the Mill, Air Conditioning, etc. A number of illustrations of the subject matter plus a glossary of technical terms, complete the book.

What the Lithographer Should Know About Paper—by Robert F. Reed. Book measures 5½ in. by 8½ in.; 160 pages; nearly 100 illustrations; paper cover. Prices are: Additional copies to LTF members, $1.68 per copy; non-members, $5.18 per copy. Order from: Lithographic Technical Foundation, 131 E. 39th St., New York 16, N. Y.

House That Quality Built

The thrilling story of the country's biggest printing organization—R. R. Donnelley & Sons Co.—is told in the colorful 42 page brochure put out by this organization. The story is told by a professional writer, George H. Waltz, jr., with the aid of photographs, large and small, that create an atmosphere as well as a sample of the great enterprise and its facilities.

Photographs used in the book not only show views of buildings and equipment, large and small, but they show men at work, singly and in groups. Fragmentary scenes as well as full views help to establish the "feel of the organization"—the philosophy on which it operates.

In word, the overall understanding of the organization and its personnel is cleverly developed by presenting typical individuals in various phases of the operation. They come to the organization from high school and college and they work up through the ranks, indoctrinated with the quality spirit and a recognition of responsibility. T. E. Donnelley, son of Richard, caught this spirit long ago and carried it down through the ranks.

The standard of quality has been maintained through the years by the special training which Donnelley craftsmen get. The 25-year man or woman at Donnelly's is no rarity.

The size of Donnelley's today is well indicated by the fact that it employs some 7500 people, operates more than 160 presses, and uses better than 1000 T. of paper and 20 T. of ink a day.

Facilities, personnel, progress, and the scope of work in printing magazines, books, catalogs, and commercial work of all kinds is well brought out in the new, multi-colored brochure.

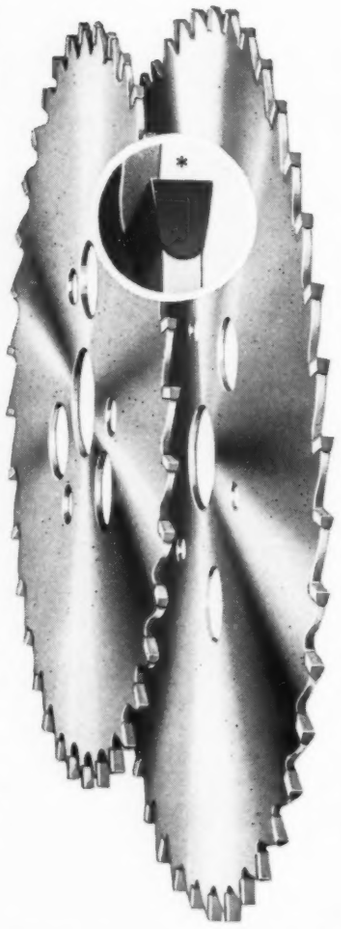
CARBIDE
PRINTERS'
"THINSAW"

Just $39.50 and YOU TRY IT FREE FOR 30 DAYS!

Here's a saw that's designed especially for your composing room! The patented, long-lasting carbide tips cut base, slugs and new alloys including Dowmetal, operating smoothly without scream, pileup or sticking. It's manufactured with as many teeth as saws costing much more . . . gives you cleaner cuts, freedom from burrs and excellent back rake cutting . . . without need for trimmer blades. Patented construction holds the carbide tips firmly against side thrust, while an extra strong braze secures them for life.

The Gay-Lee Printers' "Thinsaw" is standard in many large composing rooms, where it outlasts all others and soon pays for itself. Want proof in your own shop? Try a Gay-Lee Printers' "Thinsaw" at our risk . . . *absolutely free for 30 days.* If not completely satisfied, return it for full credit. You can't go wrong with this free trial offer, *so act now!*

(IMPORTANT: Please specify make of machine on which saw is to be used.)



*With Gay-Lee patented method of construction, brazed teeth with circular seat definitely will not break loose from saw body.

Patented—Manufactured under license.

GAY-LEE COMPANY
CLAWSON • MICHIGAN

CARBIDE SAW SPECIALISTS

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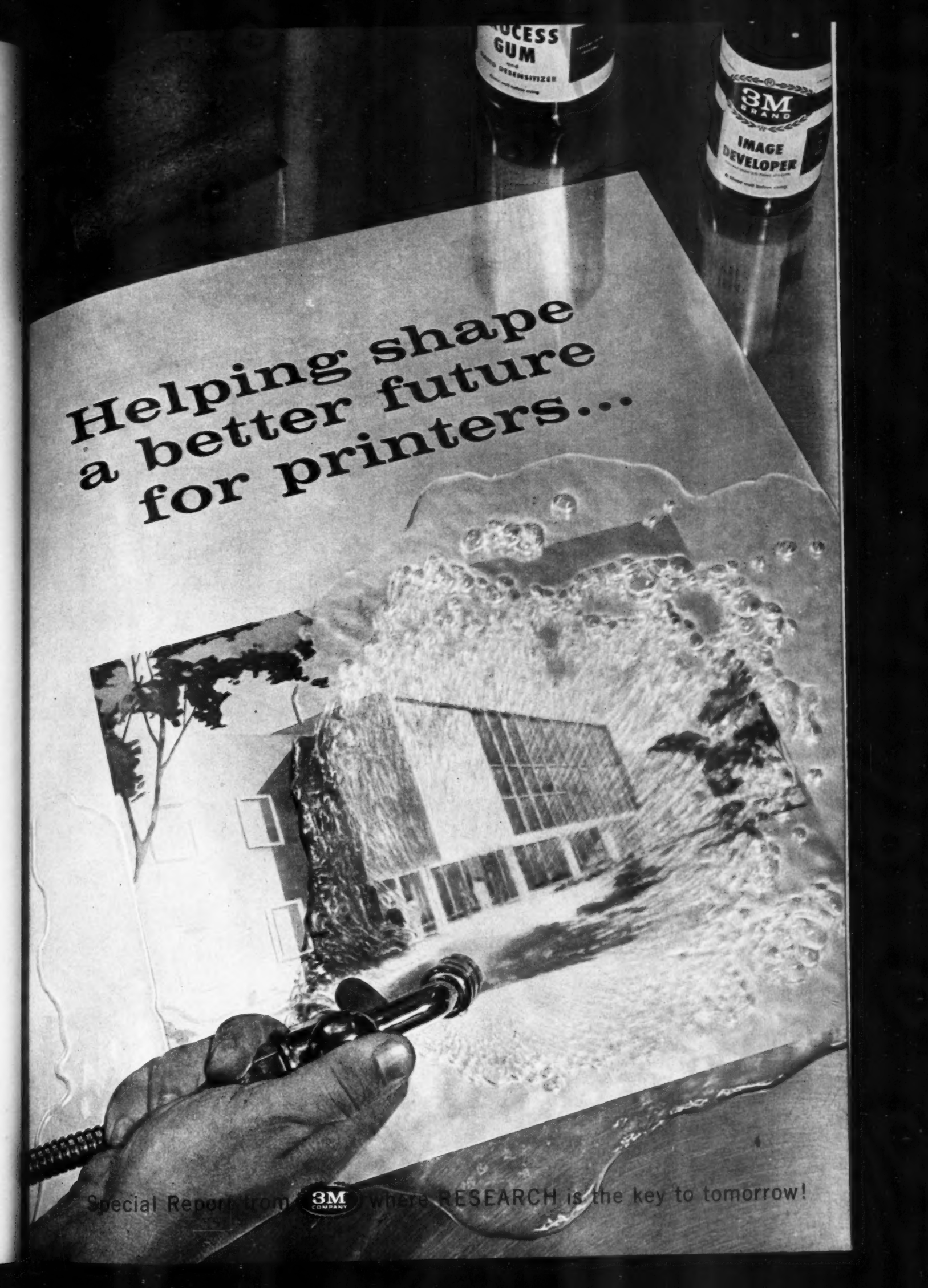
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GUM
3M
BRAND
IMAGE
DEVELOPER
Helping shape
a better future
for printers...
Special Report from 3M COMPANY where RESEARCH is the key to tomorrow!

More jobs... more printing profit...

3M Photo Offset Plates
BRAND

Provide economy with high quality lithography

Quality is the one indispensable element in getting new business and keeping present customers . . . and *quality lithography depends on* the plate.

And, any substantial savings made *without sacrificing quality* must be made in the area of *time*. Of the average litho production dollar, time represents 65¢. Materials are 34¢—while plates are only 1¢.

100%-consistent 3M Plates save production dollars, improve quality by eliminating costly variables in self-coating, processing, makeready and on the press.

This consistency is the result of controlled chemical treatment, precision machine-coating techniques developed by 3M Research and thorough quality testing at every stage in manufacturing. And flawless, smooth 3M Plates offer the perfect surface for perfectly reproducing everything in the negative.

When plate costs are only 1¢ of your litho dollar, it pays to buy the best . . . 3M Brand Photo Offset Plates.

...finer quality lithography with in

AN EXPRESSION OF FAITH in the future of the Graphic Arts Industry is 3M's $8,000,000.00 Graphic Products Laboratory. Here, and in the field, intensive research is conducted to develop new products and precision techniques to increase quality of reproduction and increase productivity. From this research will come more jobs, more income and a higher ratio of profit for printers.

More hours of productive presstime, clea
better quality printing with NEW

3M Dampening
BRAND

rollers and sleeve

Here's a new approach to dampening that eliminates co
consuming and quality-destroying problems caused by ord
and paper methods. Specially-formulated composition 3M
pre-formed and are perfectly uniform. They maintain unif
and precise water metering qualities throughout their long
The first dampener setting is the last! Regulated porosity pr
moisture retention across and around the sleeve assuring consi
application. This superior water control cuts emulsification pr
produces brilliant true-color rendition. 3M Brand Sleeves ar
free to keep press runs clean from start to finish. Color chan
washup save valuable press time—merely wipe sleeve with bl
3M Brand Dampening Rollers and Sleeves are another examp
printing products that mean greater profits for you—from 3M

This inside spread produced from 3M Brand Photo Offset Plates.

Trouble-free press performance from 100%-consistent

3M Positive Plates
BRAND

3M technicians have perfected, after years of research, a fast-processing, clean-running, 100%-consistent positive plate with a *truly visible image.*

Four important factors are the keys to trouble-free press performance of 3M Brand Positive Plates.

1. *Special chemical treating and 3M coating "know-how"*—A clear, strong yellow image is visible after exposure. 3M Positive Plates are *not* light sensitive after desensitization. They can be handled and stored *without* continuing or dark reaction.
2. *All aluminum*—Easy to handle 3M Positive Plates are clean running. They won't scum, have zero stretch and are of uniform caliper—cutting press makeready and downtime.
3. *Absolutely smooth surface*—Everything in the positive is reproduced perfectly.
4. *Machine manufacture and precise quality control*—A byword of quality for products bearing the *3M Brand.*

y with increased press p

f productive presstime, cleaner,
quality printing with NEW

Dampening

rs and sleeves

to dampening that eliminates costly, time-
destroying problems caused by ordinary cloth
cially-formulated composition 3M Sleeves are
fectly uniform. They maintain uniform caliper
ring qualities throughout their long press life.
ng is the last! Regulated porosity provides even
and around the sleeve assuring consistent water
r water control cuts emulsification problems and
olor rendition. 3M Brand Sleeves are 100% lint
lean from start to finish. Color changes without
ess time—merely wipe sleeve with blanket wash.
ollers and Sleeves are another example of better
ean greater profits for you—from 3M!

lates.

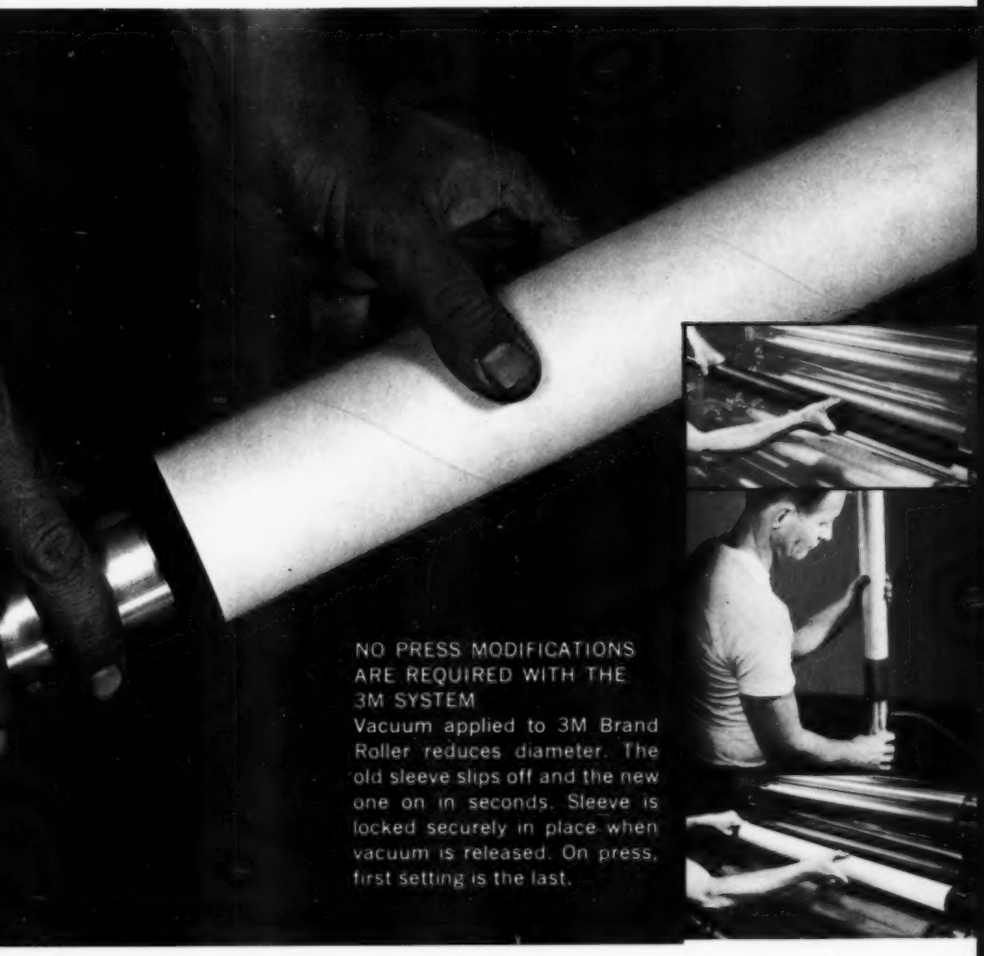
Speed up developing, p
with NEW, impro

3M Chem

BRAND

The story of 3M Plate consistency
to press, is continued with a full lin
3M Brand Photo Offset Chemicals
3M Chemists for use with 3M Pho
these chemicals assure faster, easier
perfectly-consistent results. 3M Bra
Chemicals include: 3M Brand Imag
Brand Process Gum, 3M Brand Po
sensitizer, 3M Brand Positive Plat
Brand Plate Cleaner, 3M Brand Fo
Concentrate (recommended for use
tized plates) and 3M Brand Long R

s productivity!



NO PRESS MODIFICATIONS ARE REQUIRED WITH THE 3M SYSTEM

Vacuum applied to 3M Brand Roller reduces diameter. The old sleeve slips off and the new one on in seconds. Sleeve is locked securely in place when vacuum is released. On press, first setting is the last.

pping, processing
, improved

emicals

onsistency, from package
a full line of trouble-free
Chemicals. Formulized by
3M Photo Offset Plates,
ter, easier processing with
s. 3M Brand Photo Offset
and Image Developer, 3M
Brand Positive Plate De-
itive Plate Lacquer, 3M
Brand Fountain Solution
d for use with all presensi-
nd Long Run Lacquer.

...quality plus economy for modern letter

3M BRAND MAKE

Electronically controlled pressure makeready time up to 40% . . . pr

The most important advance in letterpress i consuming handcut overlays with a precise, el system. In just 25 minutes or less (on 1-color fo middletones are made ready with accurate do sharper, cleaner work and superior quality on ev Proof on special 3M Makeready sheet . . . run where heat-sensitive coating rises in proportion simple, yet it offers accuracy and speed that Research comes the time saving and quality a provide important competitive benefits for you

This 3-page spread printed letterpress t

omy

tterpress

KEREADY

ressure correction system cuts

% . . . produces excellent quality

tterpress in generations has replaced time-precise, electronically controlled makeready 1-color forms) solids, highlights and difficult ccurate dot-for-dot correction. The result is ality on every pressrun. Here's how it works: t . . . run proof through 3M Exposure Unit roportion to the density of the ink. It's that peed that cannot be duplicated. From 3M quality advantages of 3M Makeready that ts for you!

erpress with 3M Brand Makeready.

3M BRAND PLATE

Now standardized
replaces costly han
assures high quality

REG. U.S.
SPHER
BRA

Maximum quality, mini
glass-armored tympa

The tough, glass-hard, glass-sm
Tympan Covers and Blankets
press runs. Matrixing is drastica
ant surface virtually eliminates
static problems are kept to a
resilient Spherekote Blankets
Tympan Covers on the press you
quality runs in color or black a
product of 3M Research created
ers with an eye to profits.

Atlanta 3, Ga., 732 Ashby S
Newton Center 59. Mass., 1330
Buffalo 6, New York,
330 Green St. (Mail: P.O. Box 20
Bedford Park, Illinois
6850 So. Harlem Ave., Argo P
Cincinnati 2, Ohio, 4835 Par

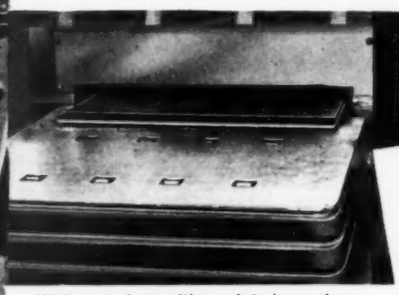
"3M" is a

MINNESOTA MIN
. . . WHERE

0-SPI(8820)HS

After face and back mats are proofed from electrotype or original plates on 3M Material, process in 3M Exposure Unit.

Face and back mats are positioned in register with the printing image of electrotype.



With mats in position, plate is ready for Treater.

Difference in rise between tonal values is determined by density of ink on heat-activated 3M Material.

3M BRAND PLATE TREATING

Now standardized plate treating replaces costly handcut methods—assures high quality duplicate plates

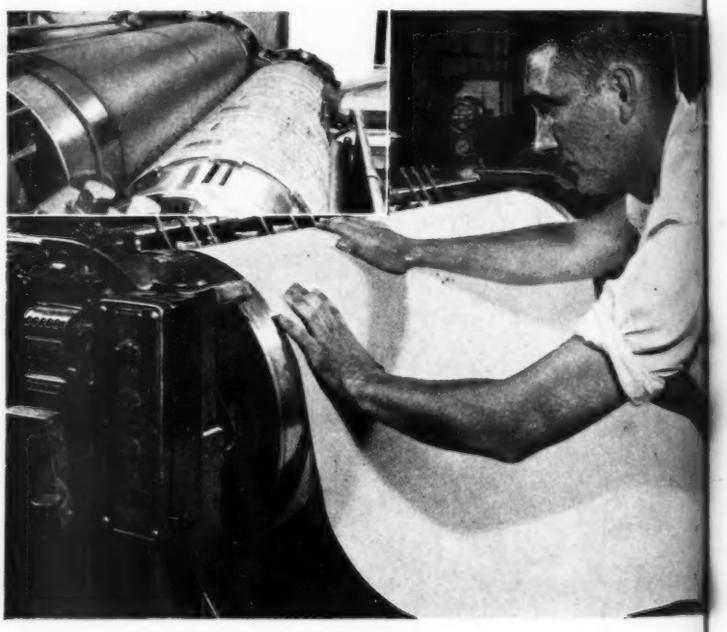
It's a fact: all costly, time-consuming hand cutting of mats is eliminated by 3M Plate Treating. There's no guesswork with the electronically controlled 3M method. The proper amount of correction will be made exactly where it is needed. 3M Plate Treating has been tried, tested and proved to save up to 50% over hand correction methods. This development from 3M Research gives consistent quality from plate to plate and job to job *automatically*. And it cuts costs too—puts you in the picture *competitively!*

REG. U.S. PAT. OFF.

SPHEREKOTE BRAND

Maximum quality, minimum downtime with glass-armored tympans and blankets

The tough, glass-hard, glass-smooth surface of Spherekote Tympan Covers and Blankets resists the beating of long press runs. Matrixing is drastically reduced. The ink resistant surface virtually eliminates first impression offset while static problems are kept to a minimum. With durable, *resilient* Spherekote Blankets or Glass-hard Spherekote Tympan Covers on the press you're assured of long, uniform quality runs in color or black and white. Here is another product of 3M Research created for quality-minded printers with an eye to profits.



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Grand Rapids 4, Mich., 815 Monroe Ave.
High Point 4, N. C., 1501 South Main St.
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Ridgefield, N. J., 700 Grand Ave.
Philadelphia 20, Pa., 5698 Rising Sun Ave.
St. Louis 8, Mo., 3700 Forest Park Blvd.
St. Paul 1, Minn., 367 Grove St.
Seattle 4, Wash., 3663 First Ave. So.
So. San Francisco 10, Calif., 320 Shaw Road

"3M" is a registered trademark of Minnesota Mining and Manufacturing Company, Saint Paul 6, Minnesota.

MINNESOTA MINING AND MANUFACTURING COMPANY
...WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY

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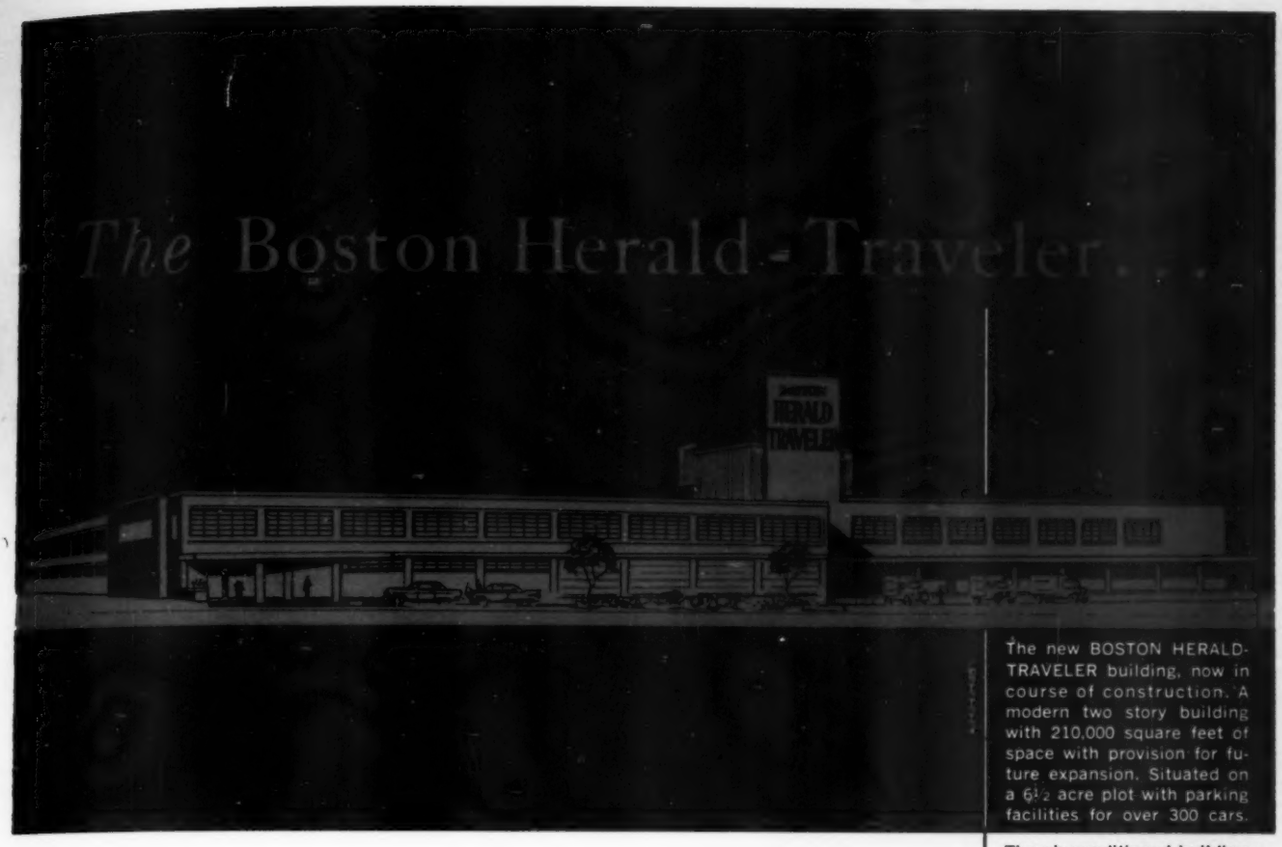
Printed in U.S.A.



The new BOSTON HERALD-TRAVELER building, now in course of construction. A modern two story building with 210,000 square feet of space with provision for future expansion. Situated on a 6½ acre plot with parking facilities for over 300 cars.

The air-conditioned building will house all mechanical departments on one floor with executive offices, editorial and other departments above, connected by electric stairways. When ready for occupancy in 1959, the Herald-Traveler will be housed in one of the most modern newspaper plants in the world.

CHOOSES **WOOD** *REELS, TENSIONS, AUTOPASTERS*

In newspaper plants where quality is the first consideration, WOOD Reel, Tension, and Autopaster equipment is in the forefront. Now, another famous newspaper joins our rapidly-growing family of users who recognize the advantages of WOOD equipment.

We are proud to announce that the BOSTON HERALD-TRAVELER has chosen WOOD equipment for their reel room and we are installing:

30

WOOD STANDARD REELS
WOOD PNEUMATICALLY-CONTROLLED TENSIONS
WOOD BELT-DRIVEN ELECTROTAB AUTOPASTERS
WOOD AUTOMATIC OPERATING DEVICES

Like the Herald-Traveler, any newspaper that puts quality first, will be years ahead with WOOD equipment. When we say, "If It's WOOD, It's Good," the established reputation of our equipment for long life and fine performance bears out our claim.

Send for illustrated literature.

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • Executive & Sales Office: 501 Fifth Avenue, New York 17, N.Y.

MANUFACTURERS OF PRESSES, COLOR UNITS, REELROOM AND STEREOTYPE EQUIPMENT FOR A CENTURY

For More Information Circle 190 on Reader Service Card

Zeke Boyd, Pressroom Foreman of the Register-Pajaronian of Watsonville, Calif., shows how easily a Scan-A-Graver plate is attached to the stereo for direct printing.

"Direct printing with SCAN-A-GRAVER plates gives us sharp, clear illustrations"

says Zeke Boyd, Pressroom Foreman of the Register-Pajaronian, Watsonville, Calif.

"The crisp cleanness of our newspaper, and particularly our photographs, has won us many compliments, thanks to direct printing with Scan-A-Graver plates," reports Mr. Boyd. "This fine reproduction is the main reason we've been leasing a Scan-A-Graver for eight years now. Another reason is that engraving electronically with our Scan-A-Graver helps us to work closer to deadlines. Because of their flexibility, Fairchild engravings are very easy to mount directly on the stereo and permit us to go to press just minutes after a photo comes in."

Scan-A-Graver plates provide high quality reproduction by minimizing the loss of halftone detail which often results from matting and stereotyping. Clean dots, with freedom from burrs and undercutting, provides sharp, crisp reproduction.

Fairchild service pays off, too

The Fairchild lease and services insure that your Scan-A-Graver always gives dependable, high quality engravings. Under the lease, Fairchild installs your Scan-A-Graver and trains operators at no extra cost. Fairchild also provides 24 hour service, replacement parts and application assistance.

Investigate the Fairchild Scan-A-Graver or Scan-A-Sizer as a means of getting high quality photo-reproduction in *your* shop. Why not write for full information today?

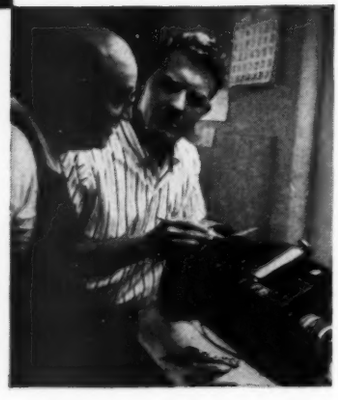
Fairchild Graphic Equipment, Fairchild Drive, Plainview, Long Island, New York, Dept. 65.

FAIRCHILD GRAPHIC EQUIPMENT

SCAN-A-GRAVER® • SCAN-A-SIZER®

Electronic Engraving Machines

Division of Fairchild Camera and Instrument Corporation



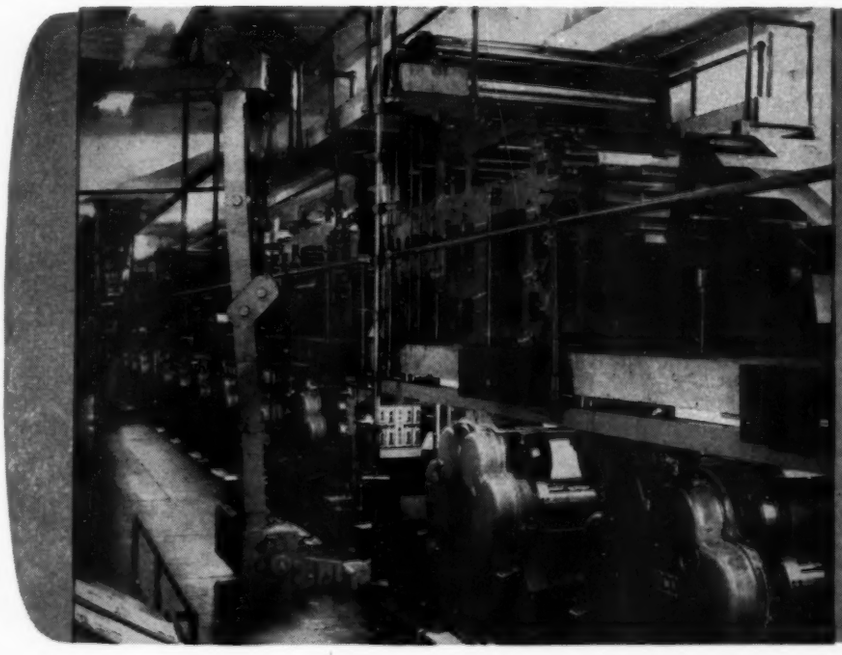
TEAMWORK PAYS!
Register-Pajaronian photographer, Sam Vestal, and Pressroom Foreman, Zeke Boyd, work closely together in maintaining superior quality of photo reproduction in their newspaper. Says Sam, "Because we are able to get excellent reproduction of our photos, I am encouraged to take better pictures."

DISTRICT OFFICES: WALPOLE, MASS. • ATLANTA, GA. • CHICAGO, ILL. • LOS ANGELES, CALIF. • TORONTO, ONT.

For More Information Circle 58 on Reader Service Card

PHOENIX, Arizona, REPUBLIC and GAZETTE ADDS MORE *SCOTT* EQUIPMENT...

Newly installed SCOTT In-Line, high speed press equipment provides facilities for printing up to 60,000 papers per hour on straight runs. If your pressroom needs modernization or, if you contemplate erection of a new plant, by all means, let SCOTT engineers help you plan a stream-lined pressroom and reelroom. Our experience will be invaluable to you, regardless of the number of press units you plan to install.



MODERN PRESSROOM OF THE REPUBLIC AND GAZETTE, 25' x 180' ft., equipped with 18 SCOTT Press Units, Reels and Pasters, and three 3-2 SCOTT folders. Nine press units are equipped with color couples for utmost flexibility in ROP Color printing. Presses can be operated as three 6-unit presses or two 8-unit presses, using spot color on one-fourth of the pages.

WALTER SCOTT & CO.

SCOTT presses

DIVISION OF WOOD NEWSPAPER MACHINERY CORPORATION Plant: Plainfield, N. J.

EXECUTIVE & SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17, N. Y.

BUILDERS OF PRESSROOM AND REELROOM MACHINERY AND EQUIPMENT SINCE 1875

For More Information Circle 156 on Reader Service Card

FREE—Would you like a large two-color reproduction of this illustration by Robert Lopshire suitable for framing? Just drop us a line and ask for your free print of "Stock Car".

Precise illustrations make fine reproductions when you use POWERLITH film

The excellent qualities of Chemco's Powerlith film are readily proved by comparative tests in your darkroom. It has exceptionally high contrast and produces extremely hard dots and crisp lines free from "squeeze-up" during development. Its sensitivity and fine balance over the entire scale produces halftone negatives of wide tonal range. Powerlith is available in both regular and thin base in 14 sheet sizes and 19 roll sizes.

Chemco's Powerlith film and its darkroom companions, Powerdot Developer and Power-Fix, can improve the quality and efficiency of your platemaking operation... a fact we can prove by demonstration. They are the results of 34 years of constant research and development by Chemco... whose entire efforts are devoted solely to the manufacture of uniformly fine film, chemicals, cameras and equipment for photomechanical reproduction.

chemco

CHEMCO PHOTOPRODUCTS CO., INC.

Main Office and Plant—Glen Cove, N. Y.

Atlanta Boston Chicago Dallas
Detroit New Orleans New York

For More Information Circle 40 on Reader Service Card

Another NEW Test Press!
the Vandercook Universal II

Here is a fitting companion machine for the recently announced Universal I. Large enough in size to take a full newspaper page plate, the Universal II is an excellent precision press for pulling the finest engravers-quality reproduction proofs . . . for proving color with hairline register . . . for sharp, opaque transparencies . . . for laboratory testing of ink and paper . . . or as a general test press to check the printability of plates, type and forms.

Features . . .

- *Maximum form or plate size 18" x 24".*
- *Available either hand or power operated.*
- *Plastic covered inking system with 20-second form roller change, and adjusting knobs for setting form roller height. No other adjustments or tools required.*
- *Automatic washup is standard equipment.*
- *Wedge type adjustable bed, with .240" range, assures uniform impression.*
- *Revolutionary automatic ink feed.*
- *Automatic frisket and tape sheet delivery brings printed sheets back to operator at feed board.*

VANDERCOOK PRE-PRESS EQUIPMENT

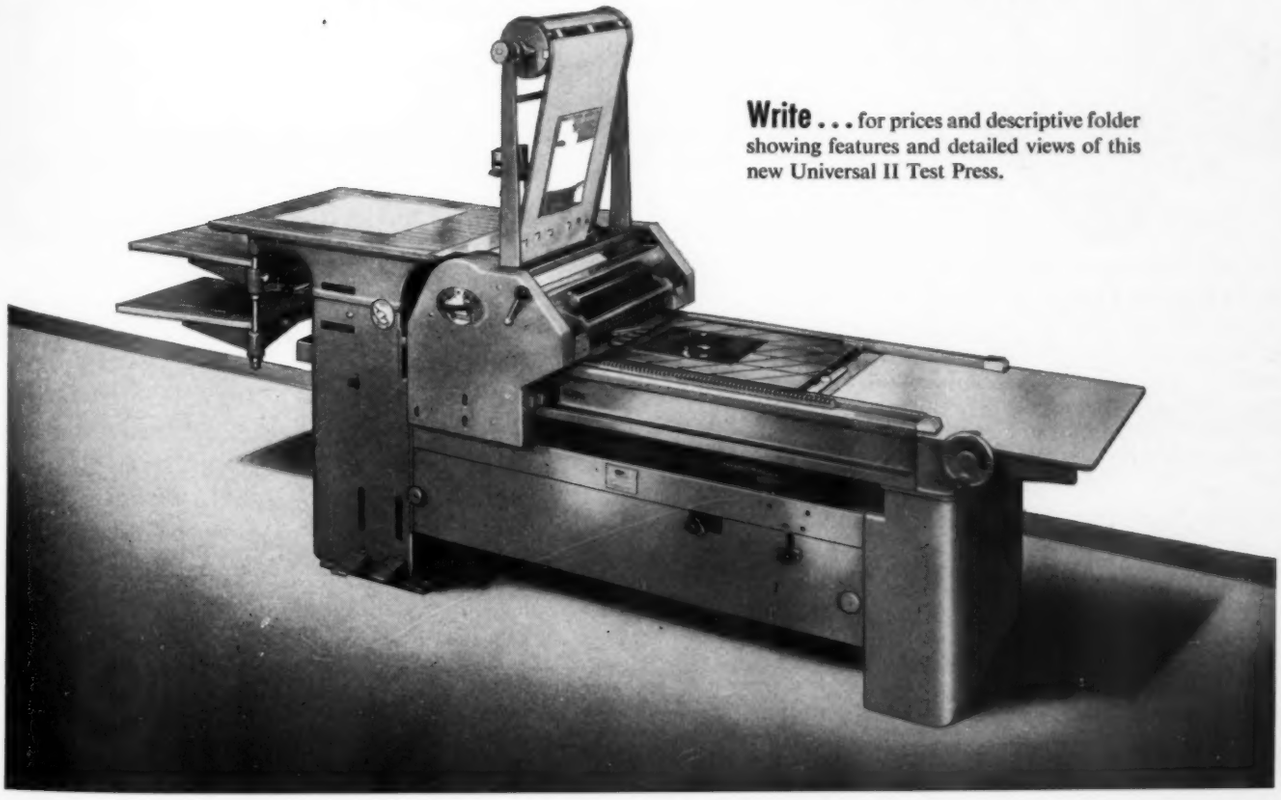
VANDERCOOK & SONS, INC.

General Offices, Research Laboratory, Demonstration Room & Factory
3601 W. Touhy Ave., Chicago 45, Ill. Phone: ROgers Park 1-2100

Eastern Sales and Service
205 W. 34th St., New York 1, N.Y.
Phone: BRyant 9-6270

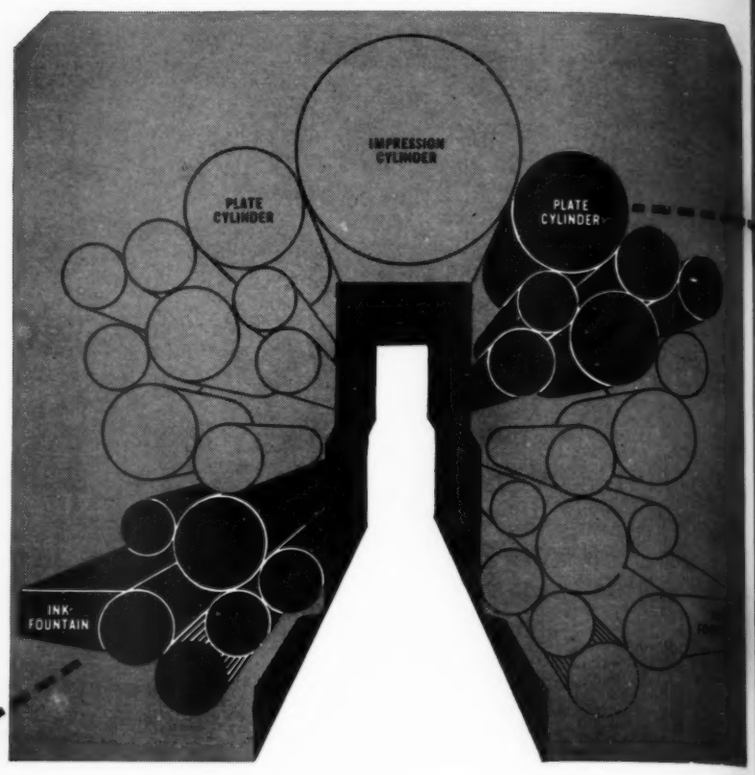
In Canada
Sears Limited

Western Sales and Service
3156 Wilshire Blvd., Los Angeles 5, Calif.
Phone: DUnkirk 8-9931



Write . . . for prices and descriptive folder showing features and detailed views of this new Universal II Test Press.

For More Information Circle 182 on Reader Service Card



UNIT CONSTRUCTION

Provides flexibility for growth by enabling additional units to be added at any time—basic design gives full accessibility for fast get-away and changeover—all units are reached from floor level assuring pressmen complete ease of operation.

CONTINUOUS INK FEED

Newly designed poly-sided ink feed roller, in constant contact with fountain roller and ink train, replaces the ductor roller—the substituting of continuous feed for intermittent feed makes possible uniform inking and finer quality at the highest press speeds.

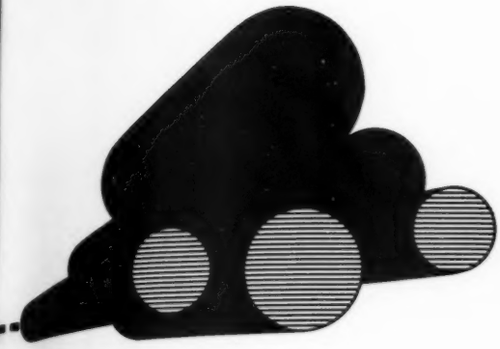
MEAN LOWER

New Developments Solve Many Magazine

Steadily rising costs are the greatest problem facing magazine publishers and printers today. They're constantly looking for new ways, means, methods and equipment to step up production, improve efficiency, and maintain a good profit margin.

To help combat high costs, Goss has developed many new magazine press features in the last three years . . . features which offer tremendous production advantages through simplicity of operation, improved product quality, and greater productive speeds.

Prominent among these advances are the new Goss Magazine Press Folders. Folding being the key to press speed, Goss has increased folding speeds up to 2000 feet per minute! This and the features illustrated here are typical of the advanced design engineering introduced in the Goss Magazine Press line since 1955.



NEW INKING ARRANGEMENTS

A new combination of two form rollers and three vibrated backup drums provides more quality from less mechanism. The result, a more compact and more accessible inking arrangement capable of printing the finest quality.

NEW GOSS MAGAZINE PRESS FEATURES PRODUCTION COSTS

in the Last Three Years Printing Problems

Whether you print publications in runs of thousands or millions there's a Goss Magazine Press to meet your requirements. In addition to the unit constructed presses, there are five-and-five presses, six-and-six arrangements, and giant double ender presses . . . with the speeds ranging from 750 to 2000 feet per minute!

Let our experienced staff study your operation . . . your problems. They can be of valuable assistance in helping you determine press needs—and in plant layout planning. Let them show you how a custom engineered Goss Magazine Press—with numerous advanced designed features—can help to substantially lower your production costs.

The GOSS Company

A Division of Miehle-Goss-Dexter, Inc.

5601 WEST 31ST STREET—CHICAGO 50, ILLINOIS

Leading plants which have recently chosen GOSS Magazine and Publication Presses include:

Baird-Ward Printing Co., Inc.
Charlton Press, Inc.
Cuneo Press
R. R. Donnelley & Sons Co.
W. F. Hall Printing Co.
Miles Kimball Company
Hildreth Press
McCall Corporation
Wesleyan University Press
Meredith Publishing Co.
Ransdell, Inc.

For More Information Circle 72 on Reader Service Card

HELPFUL LITERATURE

FOLDERS · Sales Aids · Instruction Sheets · BULLETINS · Catalogs · BOOKLETS · Brochures

Circle Numbers on Reader Service Card in This Issue

Keep Yourself Informed. The folders and bulletins listed below all pertain to modern equipment, supplies, processes and/or methods. These have been prepared especially for plant managers, superintendents and foremen. Please circle the numbers on the Reader Service Card in this issue for the bulletins you wish to receive. Drop the self-addressed card in the mail. PRINTING PRODUCTION will forward your request.

Composing Room

STA-HI FORM FILE

Sta-Hi Corporation has released a two color four page folder in which its composing room power lift form file is described. The 16 tray file is operated by an electro-hydraulic system which brings desired tray to level of makeup truck. Circle No. 358 on Reader Service Card.

MONOPHOTO PHOTOTYPESETTER

The Monophoto phototypesetting machine is described in a four page two color folder available from Lanston Monotype Co., Div. Lanston Industries Inc. Together with illustrations of the machine is a diagram of the optical system. Circle No. 359 on Reader Service Card.

ELROD CASTER FOLDER

Ludlow Typograph Co. is offering a two color folder descriptive of the Elrod lead, slug, rule and base caster. Specifications, illustrations and diagrams of machine are included. Some of the rule faces available are also shown. Circle No. 360 on Reader Service Card.

STAR V-BELT MOTOR DRIVE

The Star V-Belt Motor Drive for Linotype and Intertype machines is illustrated and described in literature released by Star Parts, Inc. Drive is said to embody several features, including variable speed pulley, sealed ball bearing idler pulley, oil-impregnated bearings and vibration-free operation. Motor is 110-220 v. Circle No. 318 on Reader Service Card.

CHALLENGE PROOF PRESSES

Challenge Machinery Co. has made literature available in which proof presses are described and illustrated. One basic design is featured in four models in two sizes, 14½ in. by 23½ in. and 19½ in. by 23½ in. Three additional models are also available for general proofing needs. Circle No. 317 on Reader Service Card.

AMSCO CHASE CATALOG

American Steel Chase Co. is offering a catalog in which its Amsco steel and aluminum chases are described. Chases are available for newspapers, commercial printers, stereotypers and electrotypers. Circle No. 330 on Reader Service Card.

ALIGN-A-MAT LITERATURE

Literature is being made available by Fisk to describe its Align-A-Mat device for restoring worn lugs on linecomposing matrices to factory standards. Old matrices corrected on device are said to align perfectly with new ones. Circle No. 331 on Reader Service Card.

MOHR SAW BOOKLET

Cutting Composition Costs is the title of a booklet offered by Mohr Lino-Saw Co. Described is the Mohr saw which is attached to the linecasting machine. Saw is said to cut slugs to any measure, without spoilage. Circle No. 327 on Reader Service Card.

WETTER NUMBERING MACHINE

Information and prices of various models of Wetter numbering machines are available from Wetter Numbering Machine Co. Models include midget, rotary, lock-wheel and nonpareil. Circle No. 326 on Reader Service Card.

INTERTYPE MODEL C BOOKLET

Intertype Company, Div. Harris-Intertype Corporation, has issued a 20 page, 8½ in. by 11 in. booklet descriptive of the Model C Universal Hi-Speed linecasting machine. Machine is available for manual or automatic operation. Features described and illustrated include loose and tight line safety devices, distributor safety switch, assembler slide safety, oil cushions, three pitch distributor screws, Dual Duty quadder, Visilite magazines, and assembler slide brake jogger. Typographic specimens and equipment specifications are also included. Circle No. 344 on Reader Service Card.

Platemaking

NPS PLATE SHEAR

A plate shear designed for trimming metal and plastic printing plates up to 3/16 in. thick is illustrated and described in literature available from Newspaper Publishers Supply Co. Shear is foot powered and is equipped with safety bar, 26 in. wide knives, and nonglare light tube. Circle No. 338 on Reader Service Card.

EVA-PRESS FOLDER

Eva-Press equipment for producing rubber plates is featured in a two color, four page folder released by American Evatype Corp. Hand operated as well as combination power and hand operated platens are illustrated and described. Also illustrated are composing and lockup sticks, and a plate gauge. Specification and price list sheet is included. Circle No. 339 on Reader Service Card.

BRIGHTYPE CONVERSION PROCESS

Ludlow Typograph Co. is offering an attractive four page folder in which its Brightype conversion process is described. Process is used to convert any combination of letterpress printing material into photographic images for use by any printing process. Circle No. 311 on Reader Service Card.

AIR-GRIP VACUUM CHUCK

Monomelt Company, Inc. is offering literature to describe its Air-Grip vacuum chuck for holding plates rigid on router, proof press and shaver. Chuck consists of a hollow-cored magnesium plate through which holes are drilled into air compartment supplied by a vacuum pump. Suction holds plates in place. Circle No. 308 on Reader Service Card.

MAT AND PLATE MOLDING BULLETINS

Lake Erie Machinery Corp. is offering Directomat Bulletin 349 and Acraplate Bulletin 24.1 to illustrate and describe its equipment. Directomat is for direct pressure stereotype mat molding while Acraplate is for rubber and plastic plate molding. Five Acraplate models are available, from 115 to 550 tons, with platen sizes from 17 in. by 22 in. to 36 in. by 44 in. Circle No. 309 on Reader Service Card.

TRI-COLOR OVERHEAD CAMERAS

A six page process color folder, in which Tri-Color overhead cameras are described, is available from Robertson Photo-Mechanix, Inc. Illustrated and described are new features available on cameras. Some of the features included are: Direct masking system for process color; dual drive which combines electric screw drive with manual cable drive; projection film holders for increasing film size of basic camera, and side screen elimination that will accommodate either one or two glass screens. Folder is designated as Catalog Bulletin OH-102. Circle No. 343 on Reader Service Card.

KENRO VERTICAL 18 CAMERA

The Kenro Vertical 18 camera is described in literature being offered by Kenro Graphics, Inc. Camera is said to make line and halftone negatives, one shot, right reading photocopies, and Xerographic exposures. Circle No. 315 on Reader Service Card.

KODAK EKTACOLOR PAPER

Use of Kodak Ektacolor paper (formerly Kodak Color Print Material, Type C) is presented in a guidebook released by Eastman Kodak Co. entitled *Printing Color Negatives.* The 56 page publication includes step by step information on the printing process as well as detailed descriptions of such subjects as enlarging equipment, filters for white light printing, test printing, processing, master negative, negative evaluation, dodging and printing in, contrast control, and transparency printing. Is available through Kodak dealers. Price, 75c.

POWDERLESS ETCHING METAL

Micro-Metal and Micro-Mix are featured in an unusual two color folder released by Rolled Plate Metal Co. and Atlantic Zinc Works, Inc. Micro-Metal is a zinc photoengraving metal designed for one-bite powderless etching. It is also claimed to be suited for conventional nitric acid process. Micro-Mix is a chemical bath for halftone, line and combination powderless etching of zinc flats. Circle No. 332 on Reader Service Card.

CHEMCO OLYMPIAN CAMERA

The Olympian lithographic and photoengraving camera is featured in literature released by Chemco Photoproducts Co., Inc. Camera dispenses panchromatic roll film in sizes up to 30 in. wide. A 3-point register system provides for independent positioning of color masks. Circle No. 321 on Reader Service Card.

Pressroom

SPHEREKOTE DRAWSHEETS

A sample swatch of Spherekote Drawsheets is being made available by Minnesota Mining and Mfg. Co. Drawsheet surface is formed by millions of glass beads fused to a resilient rubber base. Drawsheets are said to resist ink, are resilient, have uniform caliper, and assure minimum bolstering. Circle No. 320 on Reader Service Card.

VANDERCOOK MAKEREADY SYSTEM

A 32 page book offered by Vandercook & Sons, Inc. includes a complete description of the Vandercook Minimum Makeready System. Book is profusely illustrated with large, easy to follow illustrations of equipment and procedures used in the letterpress makeready system. Circle No. 347 on Reader Service Card.

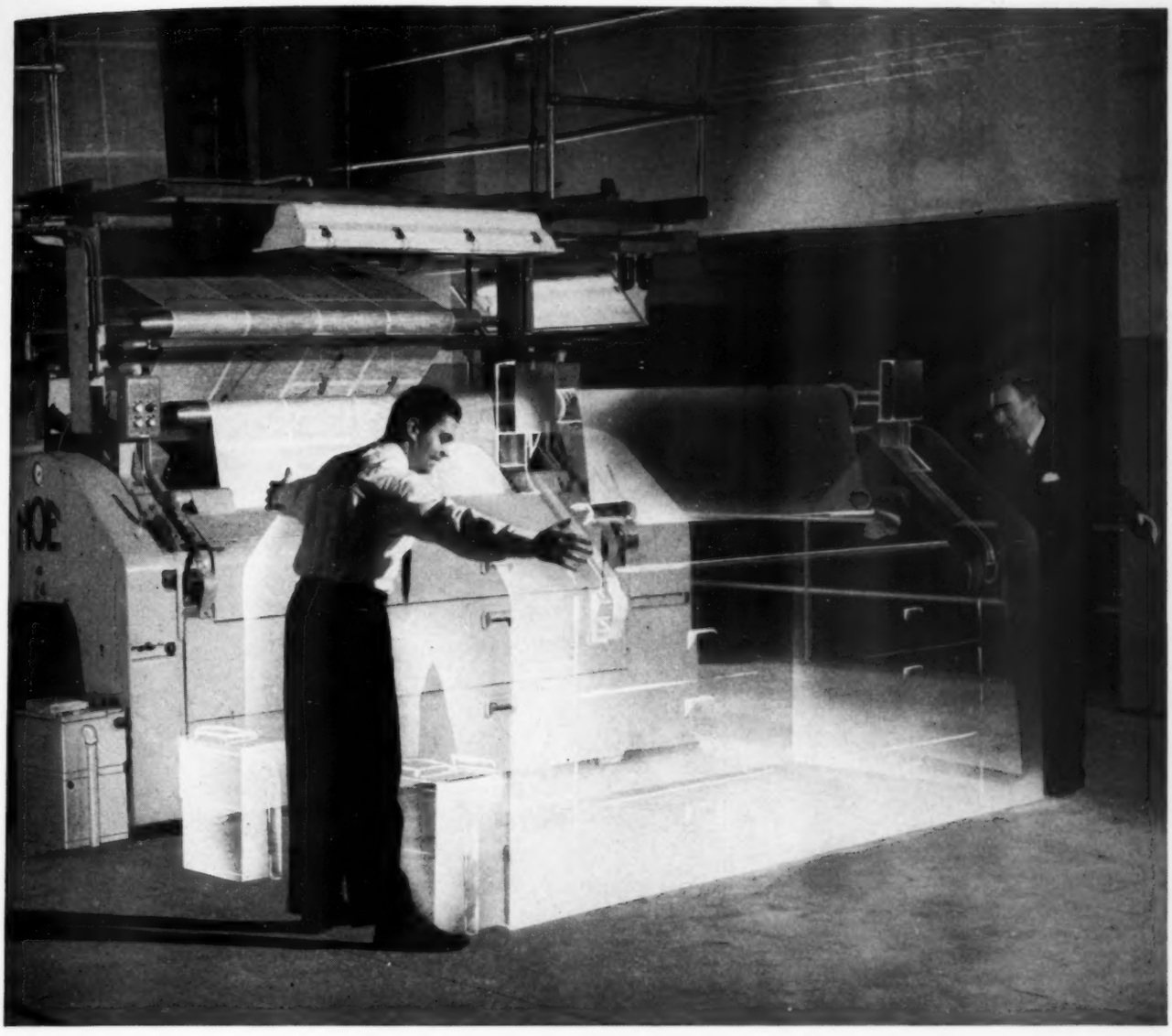
SPEED-FLEX BOOKLET

Orville Dutro & Son, Inc. is offering a 12 page booklet in which its Speed-Flex offset and letterpress webfed rotary presses are described and illustrated. Two models are illustrated in full color. Featured is a combination rubber plate and offset webfed press. Speed-Flex ColorVerter and Speed-Flex collator are also discussed. Circle No. 340 on Reader Service Card.

PROPORTIONAL REGISTRON

Model C300 Registron for selection of web scanner target and automatic zeroing-in of all

(*Continued on Page* 90)



The plus of a Hoe press:

AN EXTRA UNIT IN SAVED LINE-SPACE

A pressroom planned with Hoe equipment means smooth, efficient traffic flow at press time ... free, safe aisles ... room to do a job you're proud of. It can also mean the addition of new equipment to the existing lines without nightmares.

Yet nothing is sacrificed in planning Hoe presses for pressroom convenience. All adjustment and operating points are located for safe, easy access. In fact, Hoe equipment has become more and more versatile, until the available features are today's finest examples of advanced design. Hoe's consistent leadership for more than a century and a half produces astonishing efficiency.

Hoe's extensive lines for every kind of pressroom . . . engineered with the kind of precision made possible only by experienced, dedicated craftsmen . . . will help you meet competition for years to come. Hoe service is economical and prompt. *It will pay you to get in touch with Hoe.*

R. HOE & CO., INC.

910 East 138th Street, New York 54, N. Y.

Sales Offices: New York • Boston • Chicago • Dallas • Miami • San Francisco

For More Information Circle 87 on Reader Service Card

Regular Matrix Contrast Service for linecasting machine matrices is helping reduce operator eyestrain and errors in original composition in composing rooms throughout the country. Equally important are our *colored* reference marks for matrices to distinguish between type fonts, help identify pi matrices and prevent mixture of fonts.

With Matrix Contrast *colored* reference marks, W.F. "typos" can be detected in the original line before casting, preventing the original error and possible errors during correction, and saving much wasted time and effort in handling.

Write today for complete information on the savings in production time and expense that are yours when you start using Matrix Contrast black-and-white and color-coded reference marks.

MATRIX CONTRAST SERVICE

MATRIX CONTRAST CORPORATION

154 WEST 14th STREET, NEW YORK 11, N. Y.
326 W. MADISON STREET, CHICAGO 6, ILL.
1105 TRENTON STREET, LOS ANGELES 15, CALIF.

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For More Information Circle 114 on Reader Service Card

Production Control Ends Frustration

AT MISSOURI PUBLICATIONS FIRM

By GLENN S. HENSLEY

Managing Editor, The Missouri Farmer

American Press uses this acetate covered board for controlling its production. Coded production schedules are listed in various colors which include any three month period. Mrs. Blanche Greene, publication supervisor, checks log book against board with aid of her assistant, Roger Bantrup.

FRUSTRATIONS for both printer and customer are now evils of the past at American Press, Columbia, Mo. Until a few years ago in this plant, questions from customers about their jobs were often answered haphazardly, incompletely or not at all. Now this has all been changed. A complete revamping of its production control operations has resulted in an efficient organization, able to deal with customers' questions in a manner free from guesswork and uncertainty.

Located in central Missouri, American Press is a combination letterpress-offset printing plant. It is the publishing operation of The Missouri Farmers Assoc., owner of *The Missouri Farmer* magazine.

The plant, originally designed to print *The Missouri Farmer* only, had grown in a somewhat disorderly manner over the years. When faster and more modern press equipment was installed to publish the magazine, open press time was made available to other publishers on a regular commercial basis.

It wasn't hard to handle an extra publication or two, but when the number rose to more than 15, with a total circulation each month topping the million-copy figure, it was apparent that some form of organization was needed. Since a primary activity of American Press is the printing of periodical publications, action was needed immediately to get production flowing more smoothly.

No More Unanswered Questions

The basic organization, as set up three years ago, is now operating smoothly and the days of unanswered publishers' questions are no longer present.

Today, any publisher can call the plant publications supervisor and get an immediate and correct answer to his questions, since the status of his job is always known.

The Publications Department keeps track of each magazine in the plant. A magazine's status is known at all times and its production is strictly controlled from this office. Two tools are found to be quite useful: "My log book and the control board," says Mrs. Blanche Greene, publications supervisor. "These are items we couldn't do without." Continuing, she reports, "When an editor calls and wants to know something about scheduling or production, I have only to look at the board, which is on the wall beside my desk, to give him the answer he wants."

The board, a simple device built in the plant, consists of a piece of hardboard covered with sheets of white paper which are appropriate-

Errors are minimized at American Press by means of a regular system of checking. Roger Bantrup, publications department assistant, checks publisher's instruction sheet here against a blueprint proof and trimmed press signature.

ly ruled to show all days of the week for a given three month period. Over the top of the paper is a layer of clear acetate on which information is recorded with different colored grease pencils. By having a three month period showing at any one time, the department has information available at a glance from the previous month, for the current month and for the following month's issues.

How the Board Functions

Appearing in the lower left corner of this page is a close-up view of the control board at American Press. Following is an explanation of the design of the board and the coded entries which appear on it.

As can be seen, the board is divided into panels by horizontal and vertical lines. Column at extreme left is devoted to issues and job ticket numbers of publications. Titles of publications are listed in the second column. Remaining columns comprise respective dates for a three month period.

A glance at the last horizontal row in which notations appear reveals that the April issue of the *Missouri REA News* (Mo. REA) has been assigned job ticket No. 577. Following across the board, it is found that both dark and light notations appear. Light notations have been written with blue pencil and indicate plant's planned schedule for each operation. Dark entries, which have been written with black pencil, indicate actual status of job.

The first entry after issue, job ticket number, and title is PDEC copy in 3 pix. This means that a portion of copy, together with three pictures, arrived on that date. Continuing horizontally, the next notation indicates one set of galley proofs has been sent to publisher.

Directly above index finger, a light note indicates copy is due, but since it has already arrived, no further notation is posted. The pencil points to schedule calling for pasteups to be received from publisher in St. Louis. Heavy letters show pasteups have arrived on schedule both days.

CR, appearing in next panel, denotes that pages are being made up in composing room. SR, immediately following, indicates part of job is in stripping room during second shift (P_2) of that day.

Continuing to the next panel, it is found that job will be on the press during the first shift (P) on that date, as per schedule, and will go into the mail on the second shift. Last visible notation shows that mailing will continue on that date.

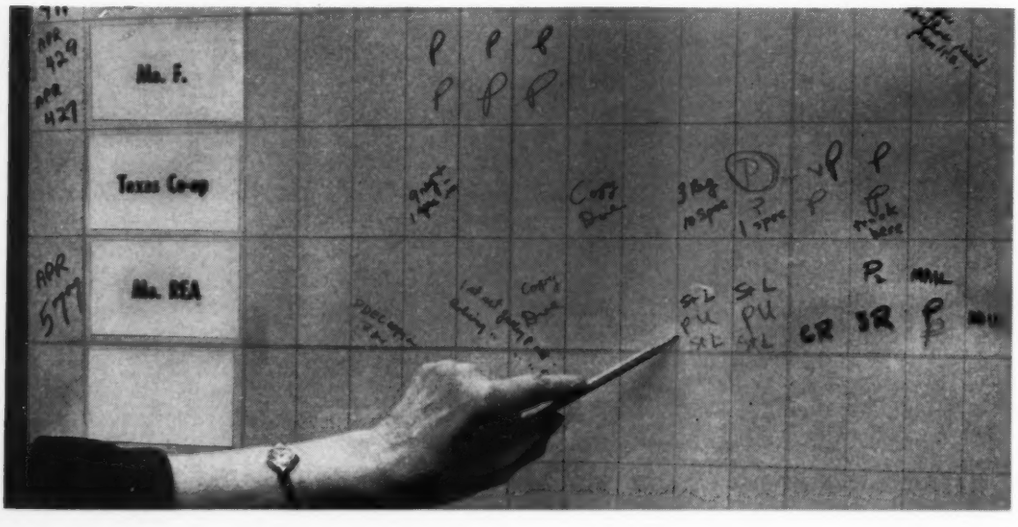
Value of Log Book

The second tool the department values is its log book. In this book, all dates are recorded to show arrival of copy, dates proofs were sent out, dates proofs were returned and all other information covering each step of production. This information is kept up to date for each publication printed in the plant. It is kept on file for several months to provide necessary information should some controversy arise at a later date in connection with any particular issue.

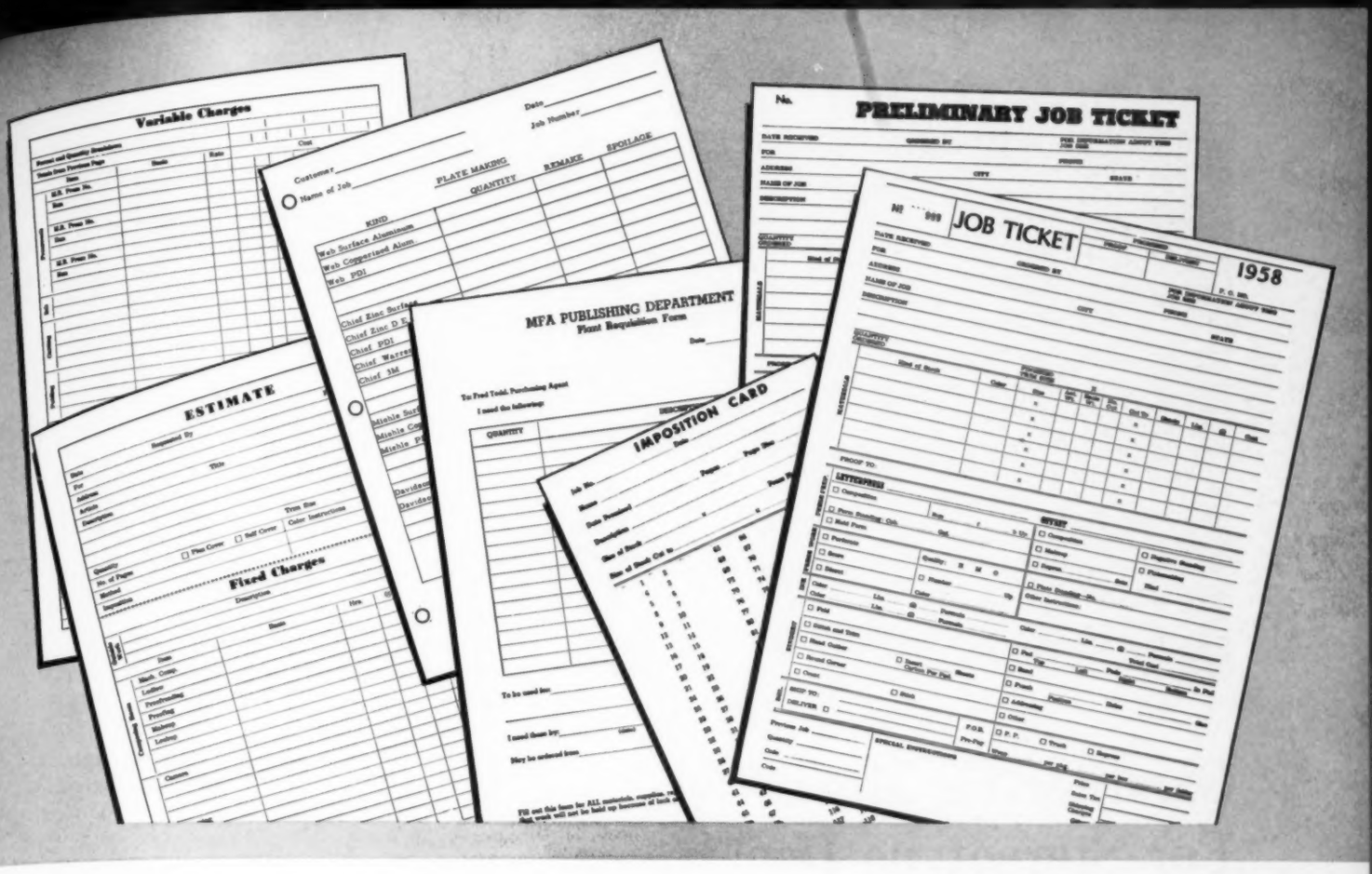
Let's look at how production would be handled on a typical web offset printed magazine. This job, we can assume, will run approximately 200,000 copies and will arrive at the plant pasted up on art boards. Photographs will arrive scaled for size and marked for cropping. It will have a cover and consist of 80 text pages of which 64 will be printed in black only and 16 will be black with one color.

In this case, we'll say that the cover copy has arrived in the plant on schedule several weeks ahead of text copy, as is actually the case.

All copy and correspondence regarding periodical publications is



A close view of the American Press control board reveals coded scheduling information. Various colored pencils are used to record data on the acetate covered board. Light notations denote plant's planned schedule, while dark writing signifies what has actually occurred.



Presented above is a selection of forms used to control production in the plant of American Press, Columbia, Mo. Page one of a four page estimate form is shown at bottom left. Space for a press layout is provided on page two of this form. Variable charges are computed on page three of the estimate, shown directly above page one. Page four contains quotation information. Form at top center is used to control platemaking operations, with columns for kind of plate, quantity, remake and spoilage provided. The imposition card, used to denote backups and color pages, is located directly below platemaking form. Materials and supplies are ordered by various departments on the plant requisition, shown at bottom center. Preliminary job ticket, top right, is used for rush jobs which can't be delayed while regular ticket is being written up. Lower right is the regular job ticket which follows job through plant.

directed immediately to the publications supervisor. Let's consider that in the morning's mail were art boards for the ads to appear on covers two, three and four and art and mechanical for the front cover. In this case the front cover picture is a piece of reflection copy.

The Publications Department logs the date of arrival of this copy in its book and marks the arrival under the appropriate date number on the control board. The expected arrival dates have been previously placed on the board in blue grease pencil. Now that copy is in the plant, arrival is marked with black pencil. Red is reserved to indicate cover information.

When art boards for the ads are sent into the plant for camera and stripping work, this is indicated in the log book. Cover art is sent out for separations and again its disposition is shown both in the log book and on the control board.

As art boards for the text pages arrive, the Publications Department records the information as it did with the cover. The dates that the art boards were expected to arrive have already been posted on the control board. If time is drawing near and no word has been received from the publisher, a telephone call or telegram will help serve as a reminder to him. Usually, this accomplishes its purpose, for the publishers have learned that their work is accurately controlled after it reaches the plant. Also, they know that if they miss their scheduled dates, there is a good possibility that added costs and delay will result.

Keeps the Job Moving

After watching and checking on the art boards through camera and stripping departments, the Publications Department supervises sending out blueprint page proofs—again according to previously planned dates. Time is allowed for the blueprints to be checked and returned to the plant in time for pages to be made up into flats, plated and sent to the press on a specified date.

Most of the time, errors are caught on the proofs that are mailed back to the plant, but often the Publications Department handles corrections as called into the plant by telephone or by teletype from respective publishers. It has even re-made page layouts for publishers in emergencies. The Publications Department keeps a set of blueprint proofs of each publication for itself in case questions arise later about any certain issue.

By visually checking various production phases, the department keeps the job moving. As Mrs. Greene says, "We work in close cooperation with both management and with departmental foremen to carry the job through to its finish in accordance with the estimated specifications." Press proofs are checked for each run and samples sent to the publishers when requested.

In the meantime, each planned step of a job is indicated upon the control board in blue pencil. Job progress is shown by notations in

(Continued on Page 92)

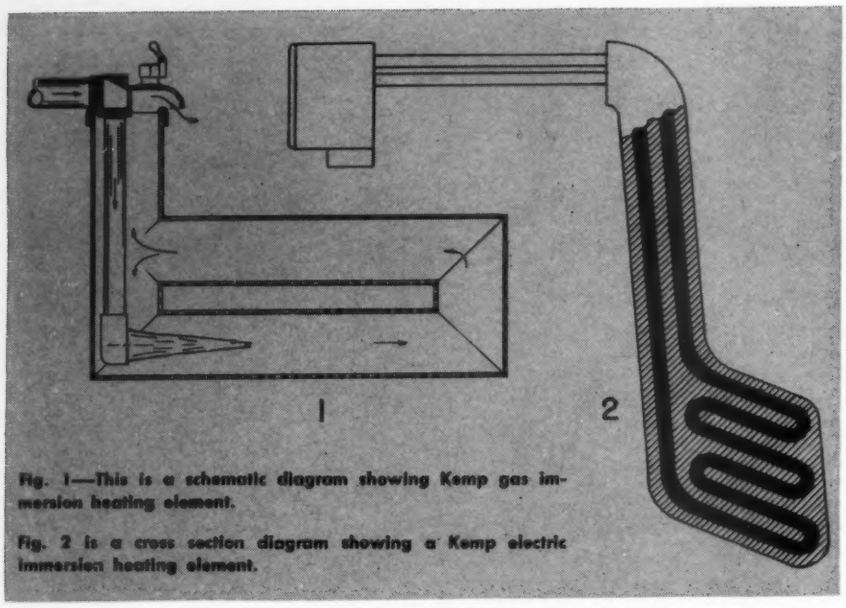


Fig. 1—This is a schematic diagram showing Kemp gas immersion heating element.

Fig. 2 is a cross section diagram showing a Kemp electric immersion heating element.

Gas-Electric Metal Pots For Stereotype Department

By EDWARD J. FUNK, Jr.

Vice President, The C. M. Kemp Mfg. Co.

THE melting of stereotype metal has undergone a number of changes from the early metal melting pots. Early equipment was heated with coal burning on a grate under the metal pot. Many of these were converted to gas or oil, firing into a refractory lined combustion chamber which took the place of the grate. Exposed flames and high reflected heat from the pot made working conditions (particularly in hot weather) unbearable by present standards. Accuracy of temperature control was difficult. Where such control was adopted it served to show up the inherent delay in transfering heat through the thick walls of the metal pot. Overshooting of the temperature due to high combustion chamber temperatures contributed to loss of tin content and high dross losses. The possibility of cracked pots was always a potential hazard.

Gas fired immersion heating was introduced in 1928. This combined the advantages heretofore obtained only with electric heat plus greater operating economies. The extension of natural gas to many communities increased the acceptance of this method of heating type metal. The fuel economy could not be ignored and high heat inputs could readily be obtained without the penalty of a demand charge. Consequently, there have been many installations of this type of heating system. A typical gas fired immersion heating element is shown in Fig. 1.

As all of the heat is retained inside the pot with the immersion heating methods there are no stresses set up in the container and cracked pots are eliminated. More thorough insulation can be applied to the sides of the pot thereby improving working conditions in the stereotype room and making possible air conditioning systems.

The elimination of defects in the old-time coal heating by the application of immersion electric elements has made this type of heating quite attractive. These heaters consist of heating tubes embedded in a casting as shown in Fig. 2. Accurate temperature control can be obtained readily. The light weight heating mass permits quick response and at the same time eliminates temperature overshooting. Heat input can be regulated to meet production needs by the selection of the number and size heaters and eliminates the restriction caused by the fixed heating surface of the metal pot.

Selection of Pot Size

A number of factors must be taken into consideration in the selection of a metal pot for a particular plant. Some of the items to consider regarding the melting unit and its auxiliary equipment are discussed below.

For those plants using a single plate casting machine the round pot is the most suitable. This provides ample operating space with a minimum floor area. These are available in capacities from 2 to 5 T. and casting rates from 20 to 50 plates per hr. (See Table I.)

The obround pot provides greater flexibility when a spare or second casting box and pump is to be installed. The location of the two casting machines at the extreme ends of the pot prevents interference with the operation of the two. The 5 and 7 T. capacity sizes with ratings up to 110 plates per hr. will handle the modern manual casting and finishing machines.

The heavy duty and automatic casting machines require greater pot capacity and higher melting rates. The 8, 10, and 12 T. capacity pots

Kemp Round Pots

Size	Capacity lbs. Electric	Gas
28 in. diam.	4,380	4,285
32 in. diam.	5,640	5,640
36 in. diam.	7,200	6,600
44 in. diam.	13,635	13,240

Kemp Obround Pots

30 in. × 60 in. 5 T.	12.035	11,160
32 in. × 72 in. 7 T.	16,480	15,680
36 in. × 84 in. 8 T.	19,530	18,000
36 in. × 100 in. 10 T.	24,870	21,300

TABLE I.—Capacity of Kemp stereotype metal pots.

Kemp Round Pots

	Losses b.t.u. per hr. 600 deg. F.	450 deg. F.
28 in. diam.	13,400	3,950
32 in. diam.	16,300	4,800
36 in. diam.	20,000	5,800
44 in. diam.	27,000	7,900

Kemp Obround Pots

30 in. × 60 in. 5 T.	29,000	8,500
32 in. × 72 in. 7 T.	38,000	11,100
36 in. × 84 in. 8 T.	50,000	14,600
36 in. × 100 in. 10 T.	60,000	17,600

TABLE II.—Radiation losses from metal surfaces.

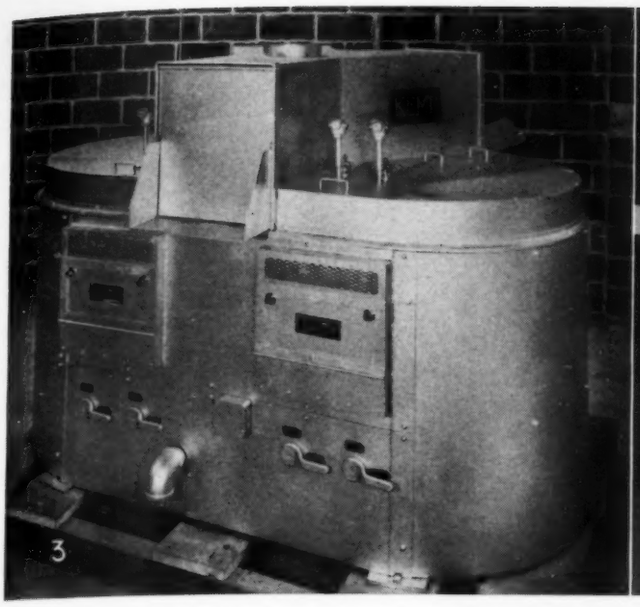


Fig. 3.—Shown here is view of a Kemp 8 T. stereotype pot with gas immersion heating elements.

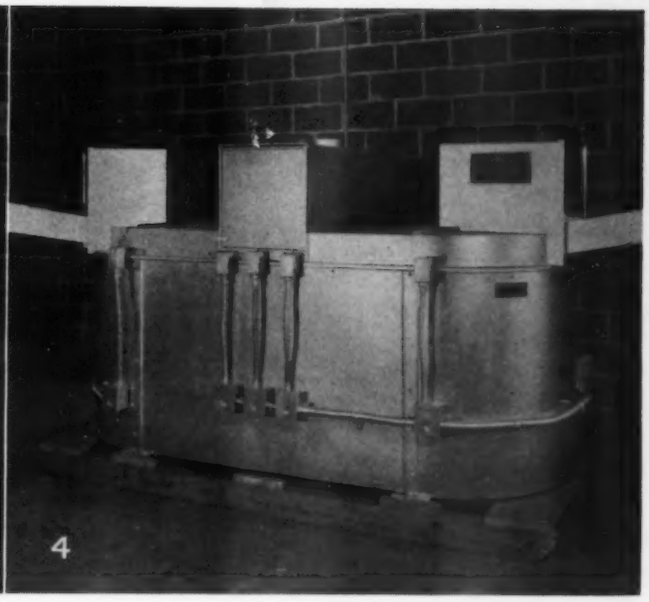


Fig. 4.—This is a view of a Kemp 8 T. capacity stereotype pot with electric immersion elements.

meet these requirements with melting rates which can be maintained without an appreciable drop in temperature. Not only the present needs but also some future anticipated requirements should be considered in evaluating the size selected.

In determining the size pot, consideration should be given to the melting rate. Frequently a smaller pot with a high melting rate will be more economical than a large pot having a low melting rate. Means must be available, either manual or by conveyor, to be sure that cold metal is returned at the same rate that plates are cast in order to maintain the metal level in the pot. To meet peak casting rates of short duration the reserve metal in the pot may be used to advantage.

Controls

Accurate temperature control is important. Generally a casting temperature of 575-600 deg. F. has been found to yield a solid plate. The tin content of the stereotype metal, type of casting box and other local conditions will dictate the exact temperature for best results. However, once established, the heating system should maintain the set degree of heat.

An indicating controller with a mercury filled capillary combines rugged construction and accurate control. Sealed-in contacts reduce maintenance and eliminate faulty operation due to dirty contacts.

An auxiliary means of sounding an alarm or shutting off the heat source is desirable in the event the normal metal temperature is exceeded. This safeguards the equipment and the alloy content of the metal. This precaution is necessary for metal pots that are maintained at operating temperature and without supervisory personnel in immediate attendance at all times. Metal pots shut off at night normally do not require this protection.

Gas fired pots which will be maintained at temperature unsupervised should in addition be provided with a flame outage response. This is arranged to cutoff the flow of gas in the event of flame failure. It prevents damage due to the accumulation of unburned fuel. Such protection takes the form of a thermocouple element mounted in the path of each burner heating unit. These couples are wired into a control system to accomplish the above results.

Hoods

A hood is a necessity over every type metal melting pot. This provides a means of removing lead fumes given off the surface of the

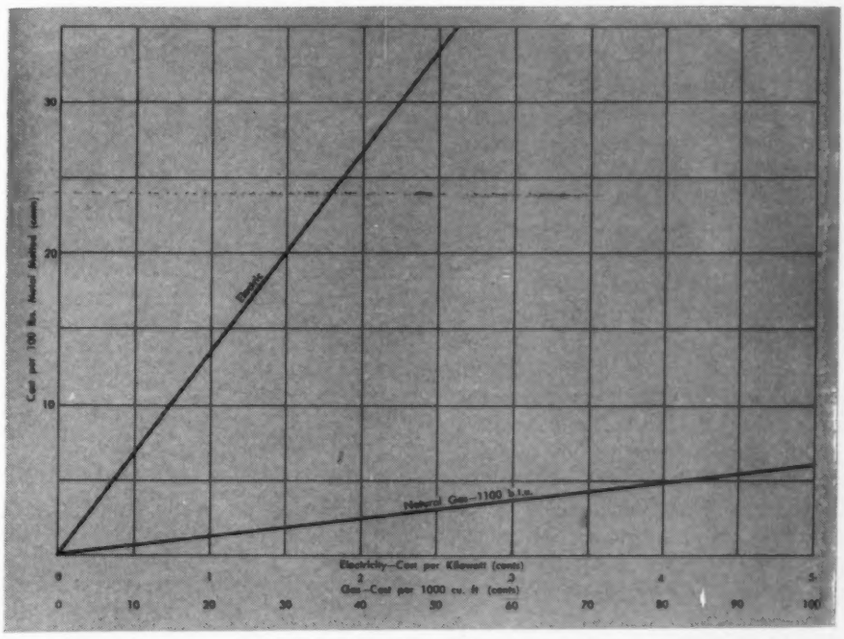


Fig. 5.—In this chart prepared by C. M. Kemp Mfg. Co. are shown comparative fuel costs for melting stereotype metal by Kemp gas and electric immersion heating methods.

Tables III and IV show analyses of Kemp electric heated and gas heated stereotype metal pot operating costs

Casting Requirements—1600 plates per mo.; 65 lbs. per plate.
Equipment—5 T. obround metal pot.
Power Cost—1c per kw. hr.; $1 per kw. demand charge.

Fuel Requirement:

Melt Plates:	
1600 × 65 lbs. per plate	104,000 lbs.
Heat to melt 1-lb. metal	46 b.t.u.
Total heat 104,000 × 46	4,784,000 b.t.u.
Radiation:	
29,000 b.t.u. per hr. × 24 × 30	20,880,000 b.t.u.
Total	25,664,000 b.t.u.

Operating Cost:

Energy:	
25,664,000 ÷ 3412 b.t.u. per kw.	7520 kw.
7520 × $.01	$75.20 per mo.
Demand:	
60 kw. × .60 diversity factor × $1	$36.00 per mo.
Total	$111.20 per mo.

TABLE III.—Metal analysis for Kemp electric immersion heated pot.

Casting Requirements—19,800 plates per mo.; 100 plates per hr.; 60 lbs. per plate.
Equipment—8 T. obround metal pot.
Fuel—Natural gas, 1050 b.t.u. per cu. ft.; 60c per 1000 cu. ft.

Fuel Requirement:

Melt Plates:	
19,800 × 60 lbs. per plate	1,188,000 lbs.
Heat to melt 1 lb. metal	46 b.t.u.
Total heat 1,188,000 × 46	51,428,000 b.t.u.
Radiation:	
50,000 b.t.u. per hr. × 24 × 30	36,000,000 b.t.u.
Total	87,428,000 b.t.u.

Operating Cost:

Immersion Gas Heat 70% Thermal Efficiency:	
Total heat input 87,428,000 ÷ 70	124,897,000 b.t.u.
Total gas required 124,897,000 ÷ 1050	118,900 cu. ft.
Total fuel cost $\frac{118{,}900}{1000}$ × .60	$71.34 per mo.

TABLE IV.—Metal analysis for Kemp gas fired immersion heated pot.

molten metal. It is particularly important during the cleaning and drossing of the metal. A low hood fitted tightly to the flange of the pot is most effective. Access doors should be provided for easy return of plates and tail pieces. An exhaust system of either an adequate stack, to give good draft conditions, or an exhaust fan is needed. The stack effect should not be so great as to pull the heat off the surface of the metal at such rate as to impose extremely high heat losses. Insulation of the hood has been found to be generally effective in reducing the radiation heat losses by 10%.

Operating Cost

In the chart, Fig. 5, is shown the cost of melting 100 lbs. of stereotype metal with Kemp electric and with Kemp gas fired immersion heating. With electric a 100% conversion energy to heat is assumed while with gas the thermal efficiency obtainable with this method has been used. In this chart, the demand charge for electric heating and the power requirement for operation of the gas mixing blowers are not taken into consideration.

The total operating cost may be computed. This is made up of the heat required to melt cold metal and the radiation losses.

Melting Metal

Each pound of metal melted and heated to a casting temperature of 600 deg. F. required 46 b.t.u. Thus, to obtain the total heat requirement this factor is multiplied by the pounds cast per day or per month according to the time interval required.

Radiation Losses

Heat is lost by radiation from the surface of the molten metal. The total heat lost is dependent upon the metal temperature and surface area of the pot. A convenient table giving these losses for surface temperatures of 450 deg. and 600 deg. F. is shown in Table II. Taking this loss and multiplying by the hours the pot is maintained at temperature set, the temperature will give the radiation losses.

With properly insulated pots the sidewall radiation losses are so small in comparison with surface losses that they may be neglected without appreciable error. By allowing the metal temperature to drop during periods when casting is not required the radiation losses can be reduced. Some of this gain must however, be offset by the heat needed to restore the metal to casting temperature after an off-period.

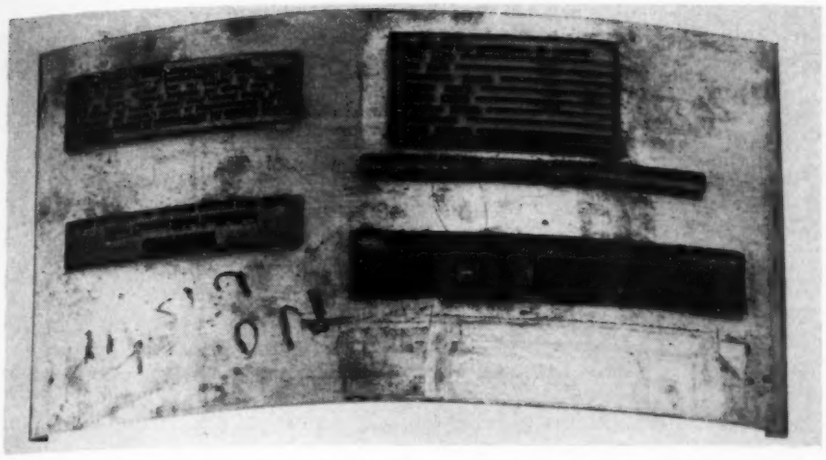
The examples shown in Tables III and IV show the method of computation. For simplicity an average utility cost has been taken although generally a sliding scale prevails. It is interesting to note for pots with relatively small casting requirements the heat losses to maintain the metal at temperature is the larger requirement. At high casting loads this is reversed and the melting requirement is greater than radiation losses.

Modern Trends

A recent development in publishing plants where a number of casting machines are operated is the use of a large remelting pot as a reservoir or feeder. All plates are melted in this central pot of approx. 25 T. full capacity. The molten metal is pumped to the individual casting pots. By separating the melting from the casting operation, greater operating economies are effected. This system gives a good supply of molten metal which is readily available at casting temperature to be delivered to any of the casting machines.

Milwaukee Open House

Miehle Company, Minnesota Mining & Mfg. Co. and Roberts & Porter Co. recently co-sponsored a new products demonstration and open house at the Roberts & Porter warehouse in Milwaukee, Wis. Printers from all over Wisconsin were invited to view introductions of new equipment including the Miehle No. 25 offset press, Miehle No. 17 Lithoprint, and 3M's sleeve-type dampeners. Other participating companies included Du Pont Company, Gegenheimer Company, and nuArc Company, Inc.



The cost of rubber plates may be reduced and press time saved on re-runs by mounting on flexible brass backing as shown in this illustration. This is a snapon form for a Davidson press.

What is Left for

FLATBED

Commercial Letterpress?

By J. W. ROCKEFELLER, Jr., *J. W. Rockefeller, Jr. and Assoc.*

FOR the past ten years or more we have witnessed the decline at an accelerating rate of commercial flatbed letterpress. Some of those following technological trends think it is now apparent that about the only field left for this method of reproduction is in imprinting, short runs of perodicals and a few other specialties. In the field of periodicals it has been found advantageous by some companies to go to webfed letterpress for as few as 10,000 copies.

The end of flatbed letterpress, however, does not necessarily mean the end of all letterpress. Even now interesting developments are under way which would indicate that in some fields, at least, rotary letterpress may possess decided advantages over offset.

The chief disadvantage of rotary letterpress has been the cost of curved plates, whether they be stereotypes or electrotypes. Because of the high initial cost resulting from the expense of such plates, a run of approx. 50,000 impressions was necessary to justify the manufacture of the plates. To be sure, rubber plates made some advances both economically and quality-wise.

We have seen rubber plate work of such high quality that it could hardly be distinguished from a fine line electrotype. Rubber plates, however, did not completely solve the problem since even their cost was high compared with offset, and a number of web fed rubber plate presses were subsequently converted to dry offset chiefly as a matter of economy.

. . . Part IV of a series: *Economics of Labor Saving Machinery.* Rotary rubber plate printing and wet-dry offset discussed.

In the packaging field the trend in labels has been toward production by web and rewind. This has been followed in Government postage stamps, and it now appears possible that even such items as cigar bands, traditionally die cut, may before long be supplied to manufacturers on the web to facilitate subsequent processing operations.

The introduction of magnesium for printing plates made possible an inexpensive sleeve for small rotary presses. Today such sleeves of approx 7 in. circumf. and 4 in. width can be purchased as low as $12 each. On a standardized item such as a label, small carton, etc., these sleeves, which may be interchanged on a press in minimum time, have proved to be the answer productionwise.

Magnesium for Dry Offset

Magnesium has also been used successfully in the manufacture of dry offset plates which have been made in sizes up to 72 in. The process here is not vastly different from the manufacture of the wet offset plate except for depth of etch and consequently the thickness of the original plate material which must be sufficient to allow the extra etch depth.

The dry offset magnesium plate possesses advantages over the curved stereotype or electrotype in that it can be etched flat and subsequently wrapped around the cylinder. This type plate has been used for many years in the production of an overall pattern for such office forms as bank checks, safety paper, etc. Dry offset possesses certain advantages over wet offset in avoiding the complications introduced through the use of a wetting agent. In some instances it has been the solution to the printer's problem where he has found it was difficult to maintain a given color hue with wet offset.

Some of the more venturesome printers producing by dry offset with an inclination to experiment soon found that it would be possible to use these plates in direct printing if the form roller contact were carefully controlled. It was further found that in the case of halftones, the finer the screen, the shallower etch was possible in the practical use of the plates.

Meanwhile the mechanization of photoengraving was introducing a

new angle in the field of wraparound plates for general printing. It is questionable whether any single innovation in the printing industry has made such rapid strides in so short a time as the mechanical engraving as typified by the Fairchild Scan-a-graver and the foreign-made Klischograph.

Approx. two years ago, at which time we made a survey of the small newspaper field, we were surprised, indeed, to learn that in the case of 60% of the newspaper publishers reporting, the Fairchild Scan-a-graver was used for the manufacture of news photographs.

More than ten years ago, the publishers of daily papers were sufficiently aware of the desirability of improving their appearance that the American Newspaper Publishers Assoc. engaged our firm to make a study in this area. Magazines such as *Life* were publishing photographs of news happenings several days after their original appearance in the dailies, but of such high quality that the public was buying.

Offset Offers Competition

Since that time more and more weeklies, through offset printing, have produced photographs comparable in quality to the slick magazines. The *Monmouth American* (Long Branch, N. J.) prints a full center spread of 120 line halftones that are complimentary to the subjects and a credit to the paper itself.

The printers of small weekly newspapers using conventional web rotary presses are becoming increasingly aware of this competition and the necessity for meeting it. They are interested in a combination of better stock (a relatively small expense item in the case of newspapers of fewer than 10,000 circulation) and better plates than those obtainable through the conventional stereotyping methods. We may expect, under the circumstances, in the not too distant future, the use of direct printing plates of nylon, plastic or other materials in finer screens than any previously used in the commercial production of a newspaper. There exists the further possibility of better molding materials for stereotyping; materials such as Jetype which is reported not only to give sharper definition of type character but which may be adaptable to the manufacture of a flat plate thin and flexible enough to wrap around a letterpress cylinder.

The Film-Klischee plate made from photographic film itself in Munich and exhibited at Graphic 57 in Lausanne is interesting in any study of wraparound plates and its further development should be worth watching. Through one or another means it may be that the cost of producing a flexible direct printing plate will come down so that, as in the case of offset produced papers it will be cheaper to print high quality halftones than to set type. As wraparound plates are developed, presses will be needed for their use. It is altogether possible that many of the flexographic presses being built today are sufficiently accurate insofar as impression and form roller setting are concerned, to be adaptable to shallow etch wraparound plates.

If flatbed letterpress is taking its final gasps, it does not follow that the day of letterpress is over. Its younger and healthier offspring, rotary letterpress, may, with the help of the newer wraparound plates, furnish offset printing with serious competition in many fields. This development seems imminent.

(To Be Continued)

PIA Will Introduce Financial Plan

A new simplified financial control program for small and medium size printing companies will be introduced for the first time at the 72nd convention of Printing Industry of America to be held at Hotel Statler Hilton, Dallas, Tex., Oct. 13-16.

The package will contain all the necessary elements of financial control for estimating, budgeted hour cost, utilization of production standards, and other aspects of financial management and control. The system, to be introduced by Peter Becker, jr., will enable printing management to evaluate on a daily, weekly or monthly basis.

This feature of the convention is scheduled to be presented at a presidents' round table discussion on Tuesday morning, Oct. 14. The importance of research and engineering to reduce printing costs will be another important feature of this same program.

At the opening session on Monday afternoon, Oct. 13, PIA President H. R. Kibler, W. F. Hall Printing Co., Chicago, will present an important report on industry developments. There will also be a nationally known keynote speaker.

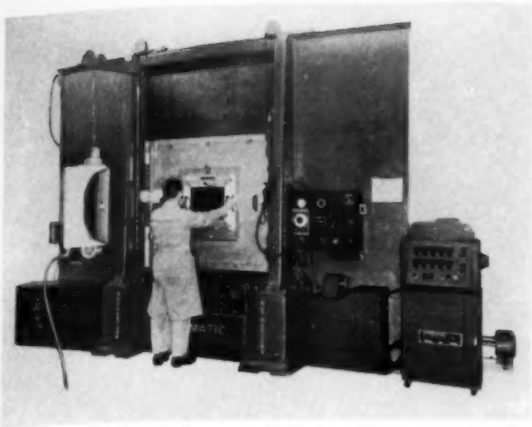
Union Employers plan their theme around *Your Unions, Your Customers, and You.* The UES Section of PIA will hold three sessions on Oct. 15 and 16.

The Master Printers Section of PIA will emphasize in three sessions on Oct. 15 and 16 current trends and labor legislation, and the importance of management having a voice in the affairs of government as a matter of self protection. Keynoter of the MPS meeting will be the Hon. Allan Shivers, former Governor of Texas.

Various PIA special groups will meet during the convention sessions. The Trade Binders Section will meet ahead of the PIA convention.

At the first general session, Donald Sommer, of the PIA staff, will discuss *The Use of PIA Production Par.* The second general session will include a talk on paper and another entitled *What's New in Equipment and Supplies.* At a third general session, a panel will discuss *Estimating for Trade Binders.*

Deeney Receives Ault Award—James J. Deeney, co-founder, Bensing Bros. & Deeney, received the 1958 Ault Award for distinguished contributions to the advancement of the printing ink industry. Presentation of the award, a bronze medallion, was made by Dr. J. C. Warner, president of Carnegie Institute of Technology, Pittsburgh, in behalf of the National Assoc. of Printing Ink Makers at its recent convention at Bedford, Pa. Pictured are, left to right, Deeney, Robert H. Flint, president of the Association and vice president, Flint Ink Corp., and Dr. Warner.



New Rutherford photocomposing machine provides automatic control of position of negative and exposure cycle. Elements of the automatic positioning feature may be installed at either side of machine face. Punched tape reader is shown here at right.

New Rutherford Photocomposer Offers Automatic Positioning Feature

A new development in photocomposing (step and repeat), the automatic positioning Rutherford photocomposing machine, has been introduced by Rutherford Machinery Co., Div. of Sun Chemical Corp. The automatic positioning control is said to provide both accurate location of the negative and automatic exposure cycle.

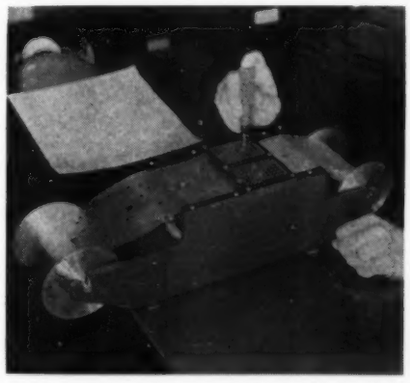
Rutherford claims the machine is capable of repeating any setting to 0.001 in. accuracy to the full capacity of the plate. The control feature may be set for progressive or regular positioning. All movements are referenced from zero point for both the horizontal and vertical motions, eliminating accumulative errors. Final location points, regardless of sequence, are always approached from the same direction at the same speed to provide accuracy of position.

Elements of the automatic positioning feature, the drive components, and the Rutherford punched tape-reader, fit at either side of the machine face.

A manual punch, with 140 hole positions, simulating the number of connections on the machine digital reader, is used to prepare the tape. Hand operated, with no power required, the punch permits simple, direct examination of the tape after it is coded by the operator. As the tape advances, the punched section is positioned over the chart which is read through the holes. Thus, the operator can immediately spot and correct any error by repunching, after patching the tape with a pressure sensitive tape. Additions may also be made.

The brain of the control is the Rutherford punched tape reader which simultaneously reads 140 channels, each of which provides the information required for the specific job. The machine holds each tape section, with its block of 140 channels, until the instructions it contains are carried out. The tape is then automatically advanced and the next block read and followed. This design, states Rutherford, permits rapid additions of sections of coded tape, and removal of unwanted instructions, by a simple cut and joined with pressure sensitive tape.

Operating instructions are written directly on the 4 in. wide tape. Negative to be used, color to be exposed, turn of negative holder, number of exposures, and similar directions are visible to the operator and provide proof that all exposures have been performed. If changes are desired while the tape is on the reader, unwanted holes may be patched with pressure sensitive tape and the tape repunched with a hand tool.



Tape is punched for the Rutherford punched tape reader on this unit. It includes 140 hole positions, a manually inserted punch tool, spool carriers and tape index punch. The punched tape provides information required for a specific job.

Precise positioning of color plates is possible, states Rutherford. The spool, from which the tape is fed through the reader, rewinds automatically upon the completion of exposures. A new plate is placed on the backboard and, at the push of a button, a new cycle of exposures for the next color plate begins.

The automatic positioning control also simplifies the operator's activity by making the main plate readily available for negative holder changes. The punched tape brings the holder to a convenient location at the right time.

A buzzer sounds when the negative holder is to be changed, turned, or when the operator is required for some other function. For more information, circle No. 250 on Reader Service Card.

ITCA Plans L. A. Convention

Seminars on production and management problems are scheduled for the 39th annual Convention of Intl. Typographic Composition Assoc., Inc., Oct. 14-17, Ambassador Hotel, Los Angeles. Hosts for the event will be Pacific Coast Typographic Composition Assoc.

A clinic on reproduction proofing techniques will be offered as well as reports on phototypesetting and other current developments.

Awards in ITCA's self-advertising and apprentice design contests will be presented at the final business meeting, which will also include election and installation of officers.

ITCA president, Frank Lightbown, Cecil H. Wrightson, Inc., Boston, will preside at sessions together with first vice president Walter R. Adamson, Mono Lino Typesetting Co., Ltd., Toronto, Can., and second vice president Clarence E. Harlowe, Harlowe Typography, Inc., Washington, D. C. President of Pacific Coast group is Lindsay Magoffin, Magoffin Typographers, Inc., Hollywood, Calif.

Abstract by the Author of This Article, **ROBERT L. YINGER**

A powdering technique for multiple bite etching is explained. In this technique is provided protection for the dot during processing, thereby resulting in retention of all the sharpness and detail of the negative. Irregularity of the dot commonly referred to as chewing is attributed to undercutting of the top during the second etching bite as a result of an imperfect bank of etching powder around the top of the dot.

This imperfect bank of powder can be corrected by the use of a double powdering technique which consists of powdering twice around, rather than once around the four sides of the plate prior to the second bite. Powdering for subsequent bites is normal.

Other suggestions are made for the improvement of the etching procedure.

It is likely that the Dow type of rapid photoengraving etch techniques now gaining in popularity will eventually eliminate the problems attendant upon the powder etching method by eliminating the use of powder. But in the interim and for some time to come (in the case of the smaller shops), the conventional powdering techniques will be the mainstay. Therefore, any technique that will be the means for providing solutions to these problems will be welcome.

New Technique for

MULTIPLE ETCHING

In Zinc and Magnesium Photoengraving

THE etching of zinc and magnesium relief printing plates in this country has for many years been based on the use of resinous powders banked and fused against the sides of the dot to prevent its reduction and undercutting while the deepening of the plate proceeded. The natural resin dragon's blood, was first used for this purpose. But this resin has certain drawbacks such as unreliability and the tendency to run which made it undesirable, particularly for the etching of fine work. These shortcomings led to the development of synthetic etching powders having more stable characteristics and which do not run.

In Britain and on the European continent, a rollup technique known as Guillotage is the method of choice for deepening screens. This consists of the application of etching ink with a roller to the surface of the plate following the first bite. The ink is heated to allow it to run down the side of the etched dot and thereby protect it during subsequent bites. This method is commonly used in this country for the deepening of copper halftones and probably does a better job than etching powder when correctly applied.

Why this process has not attained greater favor in this country is a mute question. It may be due to the fact that originally prints on zinc were made by the ink-albumen process which left an ink top which provided a good bond to the dragon's blood banked on the sides of the lines and dots. This ink-powder bond around the edge of the dot or line was completely satisfactory, but later when cold top resist was introduced, and found to be so much simpler and dependable, it quickly superceded the old albumen resist.

Poor Powder Bond

Cold top shellac resist produces a hard, slick, glass-like surface which offered no bond to the powder. As a result, a perfect bond around the edge of the dot was no longer possible, but etchers continued to use powder despite this difficulty. Perhaps this preference for powder stems, too, from a distaste for maintaining a roll up stone and the necessity for daily cleaning; or it may be that the etching powder salesmen have done a superior selling job on the American etcher.

Either process requires a high degree of skill in its application and is dependent upon the ability of the etcher. In the case of etching powder, however, the very nature of the process when used with modern slick surface tops has inherent in it certain weaknesses that allow for fairly based criticism of the final result in many cases. This is neither the fault of the powder nor of the etcher, but simply the lack of a method of application which will correct these deficiencies in technique.

The quality of an etched relief halftone is dependent upon the retention of the stencil-like crispness and regularity of the halftone dot formation as exemplified in the halftone negative.

Today's photographic materials possess extremely high quality and are entirely satisfactory for the production of halftone negatives having all the qualities necessary for perfect reproduction of the tones and gradations of the original copy. If this sharp and perfect dot formation is retained in the etching, then the etcher has done his job well. If, on the other hand, the etched dot exhibits irregularity due to chipping of the dot or line edge, then the halftone is of unacceptable quality for fine printing and must be remade, all of which is time consuming, aggravating and expensive.

The etcher is usually aware when his plate is beginning to chip, but frequently cannot do anything to correct the condition. The trouble seems to come and go without any apparent cause and is variously at-

tributed to the dryness of the powder components, humidity, condition of the resist (top), brushing technique, evenness of burn-in, force of etch, in addition to other tangentialities which only tend to cover up the real cause.

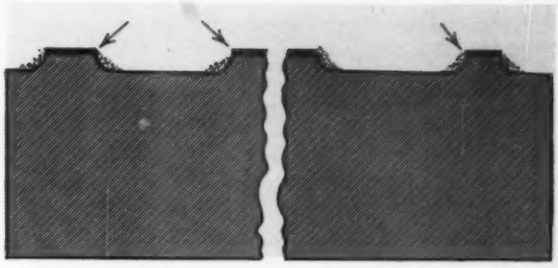


Fig. 1.—Diagram shows cross section of letterpress halftone plate (points indicated by arrows) where edge of dot is not fully protected by acid resist powder.

Imperfect Dot Protection

In the writer's opinion, this chipping or irregularity of dot formation can be attributed to imperfect protection of the dot during the second bite. It is easy to prove that the condition does not occur on the first bite. We can chalk a plate immediately after the first bite and the dot formation will appear perfect in every respect upon examination with a strong magnifier.

It is obvious that the trouble must occur during or after the subsequent bites. To pin this down, we can chalk the plate after each bite and examine it for chipping. This chipping will invariably manifest itself during the second bite. (Chipping of the dot at this stage should be differentiated from picking which is the dislodgement of powder from the shadow areas and which occurs during the last bites. This is caused by too forceful acid spray during the final bites.) After the second bite, additional powder is built up around the dot and the dot periphery is sealed against acid attack.

If one will take time to analyze this condition, the reason for imperfect protection of the dot during the second bite will become apparent. It is obvious that in brushing the powder against the dot, the main powder deposit lies well below the top of the dot due to the angle at which the brush is held while the powder is pushed against the dots and lines of the work. The dot is actually protected less where it should be protected most—at the very top edge of the dot around its periphery. This is shown in Figs. 1 and 2.

It is obvious, too, that the greatest pressure against the dot during the brushing operation is at the very top edge of the dot. It is a wonder that any powder remains around this edge at all. It follows, that with such a weak and thin powder bank at the top edge of the dot, there must be some undercutting of the dot about these unprotected places. It is this slight and irregular undercutting of the dot due to imperfect protection at its top edge during the second bite that is responsible for the so-called chipping of the dot. Actually, it amounts to an undercutting of the top with subsequent cave-in or giving-away of the top resist which results in an irregularity. The acid has gotten through the powder bank at the top of the dot and undermined the resist, so that when the plate is finally cleaned off, the cold top or other resist falls away where it was undercut, thus leaving a pit or indentation on the dot edge which tends to make the dot appear rough and irregular.

This condition is accentuated also by the use of too dry etching powder and insufficient burn-in. If the powder is worked out and has lost its resinous qualities due to alternate heating and cooling, this too will contribute to the condition and should be avoided by using fresh powder at regular intervals as experience dictates. A fresh powder with good body should always be used for best results.

Double Powdering Technique

Having pinned the cause of this trouble down to imperfect protection of the top edge of the dot during the second bite, we must seek a method or technique for applying the powder which will correct this difficulty and provide perfect protection for the dot.

The author has worked out a double powdering technique which provides this protection so that perfect results can be depended upon every time a plate is etched. The resulting etchings appear perfectly smooth and crisp—a perfect retention of the original metal print and true to the detail of the original. The technique is simple and requires only a few minutes additional time for either halftone or deep etched line plates.

The procedure is as follows: Powder and burn-in the plate for the second bite (first powdering) as usual, making sure that the burn-in time is sufficient by checking with a drop of water on the edge of the plate. When the water starts to bubble up or boil, stop the burn-in. Of course, different powders burn-in at slightly different times, so one must learn by experience just how far to let the drop of water boil.

Experience shows that the two most commonly used powders will burn-in correctly if a drop of water ¼ in. diam. is allowed to just start to bubble up. It is important to turn the plate 90 deg. halfway through the burn-in to assure even distribution of the heat. Check this burn-in time with a clock having a second hand. After the normal powdering and burn-in of the four sides, begin this same procedure again; only this time cut back one-third on the burn-in time. If on your first go-around the burn-in time was say 30 sec., then you will only burn-in 20 sec. on the second go-around. This second application of powder will adhere better to the edge of the dot because of the rough surface created by the first application of powder. The second deposit will fill in the unprotected spots around the top of the dot and effectively seal the top of the dot from acid penetration.

(*Continued on Page 93*)

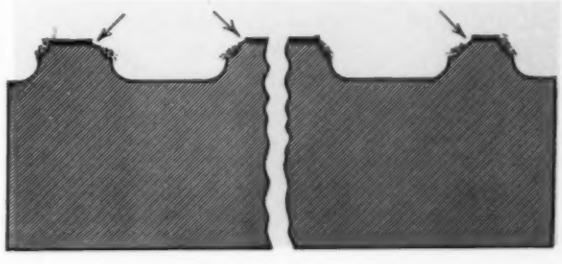


Fig. 2.—After second etching bite the same points as in Fig. 1 have been etched through the resist as indicated by the arrows, causing ragged edge around the halftone dot.

NCR paper carbonless forms can be gum-padded and afterward separated into sets. Gum-padding usually results in reduced production costs.

Tips on Handling NCR Paper In Producing Manifold Forms

THE purpose of this article is to explain some of the easily observed production handling requirements for NCR paper in the printing plant. This carbonless manifolding paper, developed by National Cash Register Co., can be used for almost any forms application such as invoices, purchase orders, statements, bills of lading, deposit slips and many others.

This paper is furnished with a coating on one side or on both sides of the sheet. The coating consists of millions of tiny capsules, dry to the touch, but containing a liquid chemical. When printing press pressure or typewriter, pen or pencil hand pressure is applied, a non-smear image is formed through chemical reaction at the point of contact.

Actually, NCR paper is comparable in quality and running characteristics to a No. 4 sulphite bond. The difference lies in the coatings which produce the copies.

Three Types NCR Paper

Three types of NCR paper are used in producing a form. The first, called CB (coated back) paper, comprises the top sheet of the form.

The second type of paper, called CFB (coated front and back), is used for all intermediate sheets of the form. The face of CFB paper is coated with a second chemical. The back contains the same coating as CB paper.

The third type of paper, called CF (coated front), is used for the final sheet of the form. It is coated only on the face—and with the same chemical used on the face of CFB paper.

When the form is written on or typed on, as explained above, the pressure breaks the tiny capsules on the undersides of the sheets. This permits the first chemical to react with the second chemical coated on the topsides of the sheets. The result is a blue color at the point of contact, producing copies down through the form.

NCR paper is available in both roll and sheet form.

Pressure Sensitivity Important

The variations required in handling and printing NCR paper are related to its pressure sensitivity. If the minute capsules on CB or CFB paper are broken prematurely during printing, an incomplete color reaction will occur later when the forms are used. Also, rough handling in the drilling, punching or cutting of assembled forms may result in unwanted coloration at the point of pressure.

The printing pressures of a rubber plate or an offset blanket have no effect on the capsular coatings used with the paper. However, direct contact of metal plates in letterpress printing can damage the coatings in certain cases unless care is taken. In the case of tints, pantographs or blackouts, it is important that a kiss impression be used when running letterpress jobs.

A simple test will reveal instantly if plate pressure or parts of the equipment are damaging the coatings. The printer can feed a sheet of CF paper and a sheet of CB or CFB paper through the equipment at the same time—with the front and back coatings together. If the tiny capsules are being ruptured, a blue color will develop at the point of damage.

Causes of Damage

The following equipment parts can cause capsular damage:

Grippers on the impression cylinder of most presses. This usually involves an area where there will be no print-through when the form is used. However, if this is not the case, allowance for additional trim should be made.

Combers, Air Blast Nozzles and Other Feed Mechanisms. Again, the areas affected usually are not written on or typed on when the form is used. If they are, allowance for additional trim should be made.

Guide Rollers on press or bindery equipment. Usually a spring tension adjustment can be made. Also, the rollers can be moved over an area where capsule damage is not a factor. For example, the edge of the sheet, or over a printed rule. Rubber rollers can also be used instead of metal or fibre rollers.

Feed-in Rollers employed in place of stops to control the sheet. This type of roller can be adjusted to light pressure and positioned over an area where damage to the tiny capsules will not be a factor.

Trimming Techniques

The trimming of CB and CFB papers is also important. Pressure on the paper should be kept as low as possible. An easy test consists of cutting CFB paper on the paper cutter and observing if the clamp (hold-down bar) causes color to develop on the topside of the paper. If color does develop:

(1) The clamp pressure should be reduced. A pressure below 35 lbs. per sq. in. is desirable. (Pressure per square inch can be calculated by dividing the square inches

of paper under the lift into the total clamp pressure.)

(2) A sponge rubber sheet, from 3/8 to 3/4 in. thick, can be placed under the clamp if it is desirable to maintain a greater pressure than 35 lbs. per sq. in. The sponge rubber also guards against possible coloration at the back edge of the clamp. Rounding off the back edge of the clamp surface also helps to protect against back edge coloration.

(3) The clamp at all times should be eased down on the lift to reduce the impact on the paper.

A small amount of coloration at the cut edge, called edge bleed, invariably develops when NCR paper forms are trimmed. This can be minimized by: (1) Keeping the knife sharp, (2) Reducing the cutting angle on the blade, (3) Using a wax on the blade.

It is also advisable to keep the cutting stick (upon which the knife banks) flush and in good repair. This protects the bottom sheets being cut. In the case of large paper cutters, blocking the clamp with a higher side stack of paper is necessary.

Use of Desensitizing Inks

In many business forms, it is desirable to block out certain areas to prevent print-through when the form is used. When making forms with NCR paper, this effect is achieved by printing desensitizing ink on the topsides of the sheets in the form.

Desensitizing ink can be applied over ordinary printing, and does not spoil the affected area for later write-ins. Desensitizing inks are for use in letterpress printing only; cannot be used in offset printing. Also, they are applicable only to the face coatings of NCR paper and will not work successfully on back coatings.

Points to remember when using desensitizing inks with NCR paper are:

(1) The amount of desensitizing ink applied determines the effectiveness in preventing print-through.

(2) To make sure that enough ink is being applied, the printer should make the following test frequently: Using a sheet of CB paper on top of the sheet being printed on, write heavily with a pencil or ballpoint pen and watch for a color reaction on the second sheet. The development of any color whatsoever indicates that not enough desensitizing ink is being applied.

When trimming NCR paper on the paper cutter, a piece of sponge rubber, 3/8 in. to 3/4 in. thick can be placed between the top of the lift and the underside of the clamp if it is desirable to employ a greater clamping pressure than 35 lbs. per sq. in.

(3) Since the desensitizing ink is applied heavier than most printing inks, it is important to make sure that it does not offset onto idler rollers of the press. This can cause transfer of the ink to areas where it is not wanted.

(4) Care must also be taken to prevent paper-to-paper transfer of desensitizing ink. For example, if the ink is not completely dry during the output of zig-zag folded forms from a continuous forms press, paper-to-paper transfer can take place, again creating an unwanted block-out effect.

Perforating the Paper

NCR papers can be perforated with good results providing the printer observes certain precautions. If problems are encountered, perforations should be made with fewer slots per inch and/or wider bridges. Frequently it is expedient to file each tooth of the perforating wheel slightly so it will cut less paper. Perforating wheels and blades should be kept sharp for best results.

Sometimes the guide wheels used with perforating equipment apply so much pressure to the paper that damage to the capsular coatings results. In such cases, either the pressure applied to the guide wheels can be reduced or they can be moved to an area of the form where no writing or typing will later take place. Rubber guide wheels will also solve this problem.

Tint or Design Printing

Certain kinds of background printing on business forms, such as tints or designs, also require care if the reproducing quality of NCR paper is to be preserved. This problem arises only where the printed area is also a write-through area. In such forms, the following rules insure good results:

(1) Maintain a very light film of heavily pigmented ink, which will give good color and still not affect the chemical action of the coatings.

(2) Design the pantograph or tint plate with fine lines and open spacing.

(3) Determine the maximum amount of ink that can be used by pulling proofs with the same plates, ink and paper to be used in the press run. Then check the proofs with test marks to determine if the print-through quality has been effected. Similar tests should be made during the press run.

Machine-collating NCR paper multiple forms can be done by hand or by machine. Here a six-part form is being collated. Also, sheets can be pre-collated and the entire set printed in a single metal plate crash printing operation.

A battery of nine Linotype machines forms a dividing line between the publication make-up and advertising typography sections of Magoffin plant. This setup enables type to be distributed in either direction.

Television Stage Becomes New Quarters For Hollywood Typo Firm

COMPLETE revamping of a former 18,000 sq. ft. west coast television sound stage has transformed the structure into a modern and efficient typographic plant.

The Magoffin Co., Inc., Hollywood, Calif., producers of advertising and publication typography and photography, had grown to a point where it was necessary to move to larger quarters. As well as offering the additional space that was needed, the sound stage featured other advantages favorable to Magoffin's operations.

No Post Obstructions

Constructed of reinforced concrete, the building is completely soundproofed. Plant portion of the building is of dome construction, free from the hindrance of supporting posts. This feature facilitated equipment installation and location and now permits full use of all floor space.

The accompanying floor plan reveals the efficient manner in which equipment and offices are laid out. Entrance at bottom right of floor plan provides immediate access to the reception room. Administrative and sales offices are located along the right side of the building, while the superintendent's office, production office, proofroom and editorial office occupy the front side of the plant.

Production operations are separated into two major divisions, with the advertising and typography department occupying the front half of the plant and the book and publication department utilizing the second half.

Separating the two departments is a battery of nine Linotype machines, with Ludlow equipment at one end and Monotype equipment at the other. By locating machine composition in this area, work from the machines can be easily sent to either main division with a minimum of time and effort.

Illumination of Plant

Fluorescent lighting throughout the plant provides 125 foot candles of illumination at working level, good lighting for the type of work being performed.

Efficiency in production flow is further maintained by the location of a saw at every two work banks, saving time and steps of compositors and makeup men.

A battery of reproduction proof presses is located adjacent to the production office and proofroom. Each press is provided with its own tables and stock racks.

Stock and form storage, and smelting facilities are located in a basement in the rear of the Magoffin building.

Located in the left rear of the plant is the photographic reproduc-

Typo Plant Operations

Reproduction proofing presses are shown at top. Each press has separate work tables and stock shelves. Glass partitioned production office is at left rear.

Publication alley is shown at bottom. Make-up banks are directly behind Linotype machines for easy procurement of type.

Attractive facade of The Magoffin Company building, Hollywood, Calif. Formerly a television sound stage, building now quarters a modern typographic operation.

tion department, said to be one of the most modern in the West. Equipment and facilities in this department include three darkrooms, an Elwood enlarger, dot etching table, vacuum printer and stripping tables. Latest piece of equipment to be installed is a Robertson No. 480 camera.

The photographic department provides Velox prints, Filmotype, Photostats, halfone and offset negatives, stripping and opaquing.

Combining efficiency and versatility, Magoffin can rightfully boast complete reproduction facilities under one roof.

Heading operations at the Hollywood firm are Lindsay Magoffin, general manager; Richard Magoffin, vice president, and Dave Emery, controller. Other supervisory personnel are Phil Seragusano, production manager; Ty Hopgood, general superintendent, and Ralph Schwartz, sales manager.

Commercial Printing Industry Reaches $2.8 Billion Volume

Employing approximately 221,000 persons in 12,073 plants, the commercial printing industry attained an estimated volume in 1957 of $2.8 billion in value of products shipped, according to the second annual survey of industrial buying power conducted by *Sales Management* magazine.

The distribution by counties of employment in the industry is indicated for the first time by the new survey, which ranks each of nearly 450 separate industries as defined by the U. S. Census Bureau's Standard Industrial Classification. For each of these industries, it shows the number of plants and total employment for the nation's top 20 counties, which in most cases account for more than half of total employment.

The nation's top 20 commercial printing counties are shown to contain 4,741 plants, representing 39.3% of the industry total.

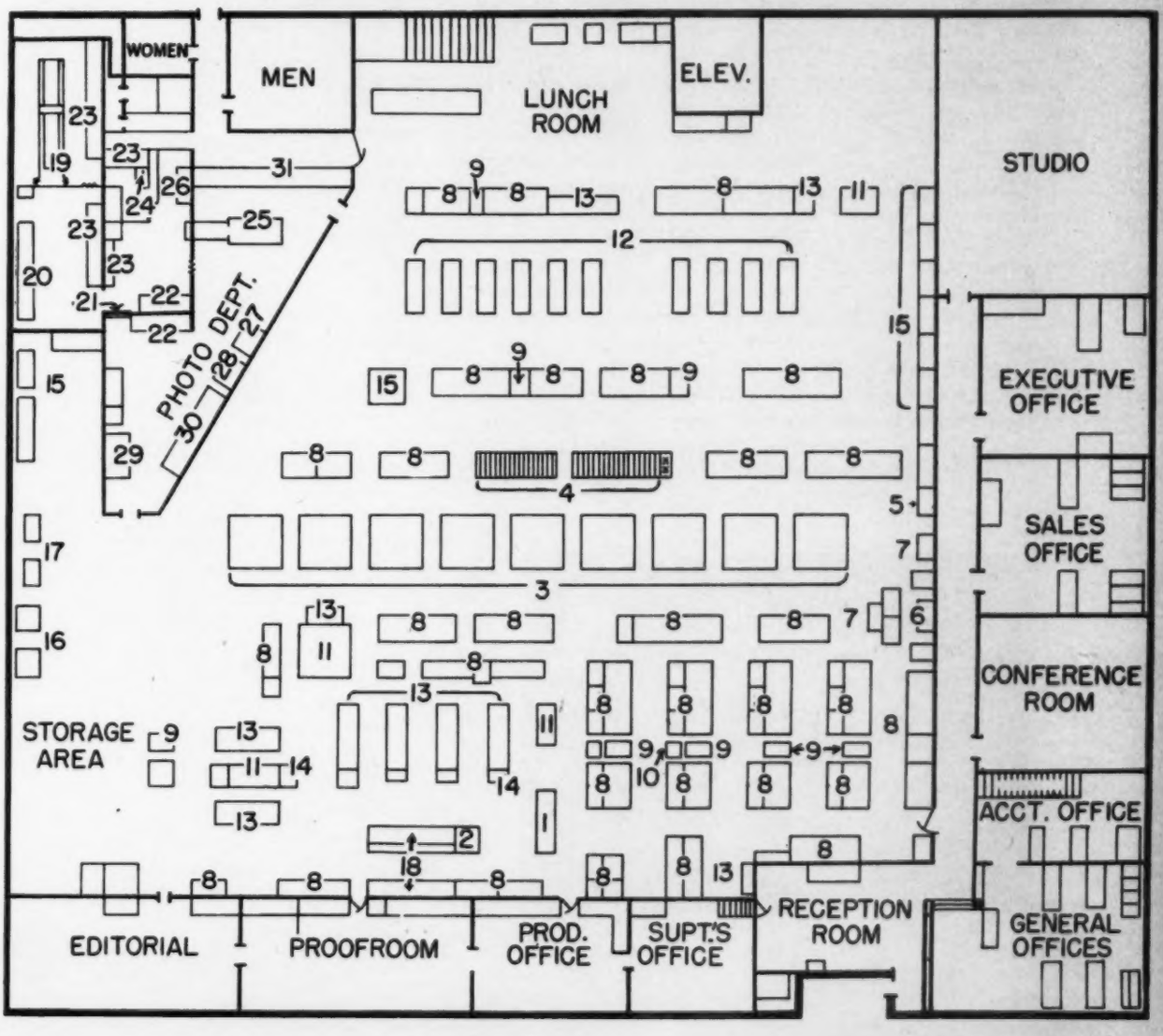
Layout of Well Equipped Plant of The Magoffin Company, West Coast Typographers

Key to Equipment Location

1—Foreman's desk
2—Markup desk
3—Linotype machines
4—Magazine racks
5—Machinist's bench
6—Ludlow
7—Ludlow cabinets
8—Work frames and type cabinets
9—Saw trimmers
10—Mortiser
11—Imposing tables
12—Form trucks
13—Proof presses
14—Proof driers
15—Storage cabinets
16—Monotype keyboards
17—Monotype casters
18—Shipping tables

Photo Dept.

19—Robertson camera
20—Temp. control sink
21—Film drier
22—Sinks
23—Storage cabinets
24—Filmotype machine
25—Photostat camera
26—Enlarger
27—Stripping table
28—Opaque table
29—Drier
30—Shipping table
31—Counter



Southwest School of Printing Elects—Officers of the Southwest School of Printing, Div. Sam Houston State Teachers College, Huntsville, Tex., are, left to right: Afton Schulz, Temple (Tex.) *Telegram,* retiring president; H. Ben Decherd, jr., Dallas (Tex.) *Morning News,* newly-elected president; R. H. Porter, Steck Company, Austin, Tex., vice president, and Phil R. North, Fort Worth (Tex.) *Star-Telegram,* secretary-treasurer. Ten scholarships ranging from $250 to $500 have been approved.

ROP Color Ads To be Displayed

Some 400 newspaper advertisements in both spot and full color will be displayed at the 3rd annual Newspaper ROP Color Conference, Sept. 15-17, Waldorf-Astoria Hotel, New York, N. Y.

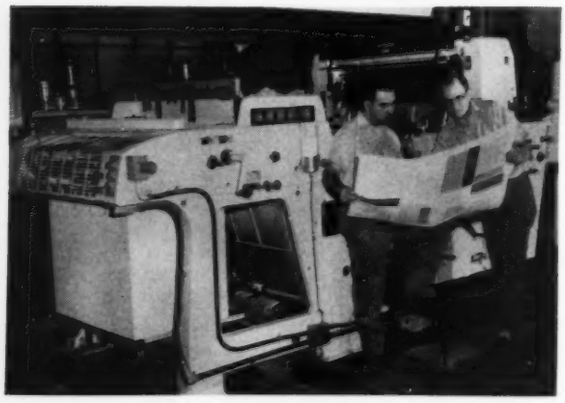
The display, which will feature 14 different national advertising campaigns, is being assembled by M. J. Butler, business manager, Houston (Tex.) *Chronicle,* and chairman, ROP Color committee, Newspaper Advertising Executives Assoc. Tearsheets of identical advertisements published by newspapers in various cities will be exhibited to emphasize ROP color uniformity.

According to Jack Lake, advertising director, Elizabeth (N. J.) *Daily Journal,* and chairman, Conference Exhibits committee, 366 retail ROP color ads have been submitted by 37 newspapers. All categories of retail advertising linage will be represented. Exhibit, which will be located in the West Foyer of hotel, will open at noon, Mon., Sept. 15 and close at noon, Sept. 17.

Inquiries may be addressed to Arthur Brashers, secretary, Newspaper ROP Color Conference, Room 403, 141 E. 44th St., New York 17, N. Y.

NEA Cites *Linotype News*

The National Editorial Assoc. recently presented *Linotype News* and its editor, Edmund C. Arnold with a Special Award of Merit in recognition of outstanding contributions toward typographic excellence in home town newspapers. *Linotype News* is published by Mergenthaler Linotype Company. The magazine, completing its 36th year, circulates to every newspaper and printing plant in the United States and Canada, as well as others in all phases of the Graphic Arts.



New York Firm Installs Harris Press — Stearns & Beale, lithographers, New York, N. Y., recently installed a Harris 25 in. by 38 in. two color offset press which will be used to produce multicolor commercial work and greeting cards. Examining a press sheet from an early run are, left to right, Michael LaRocca, plant superintendent, and Arthur Travenius, pressman.

62 Flexo Plants Respond to Survey

The Packaging Institute has issued the results of a survey of 62 flexographic plants in an effort to obtain equipment and operational data for the flexographic industry. The findings are based on a total of 496 presses in operation in the 62 plants.

Some of the interesting points uncovered about roll-to-roll presses include: 72% are stack type; 45% are 10 years old and over; 34% have web widths under 20 in., 25% are 20 in. to 30 in., 26% are 30 in. to 40 in.; 49% of the presses are four-color, 19% are two-color and 13% are three-color (only 8% are single color).

For presses operated in tandem with other equipment, the survey results were: 70% are stack type; 62% are 10 years old and over; 36% have web widths ranging from 20 in. to 30 in., 31% are 10 in. to 20 in., 18% are 30 in. to 40 in.

Here is how the surveyed firms answered the following questions: Do you have presses that combine flexographic and gravure printing? Yes, 11%; no, 89%. Do you use a copper undercoating (flash) on metal ink rollers to prevent corrosion with water-based inks? Yes, 31%; no, 69%. Do you encourage the use of halftones or Bendays (screens) for shading? Yes, 46%; no, 54%. Have you produced any color process jobs commercially? Yes, 34%; no, 66%. Do you proof plates for registration on equipment other than the printing press? All jobs, 31%; some jobs, 18%; no jobs, 51%. Do you proof plates for impression on equipment other than the printing press? All jobs, 29%; some jobs, 9%; no jobs, 62%.

Other interesting data in the survey report cover the extent to which various types of auxiliary equipment are used, normal operating speeds on various stocks, and number of personnel per press. Data are kept separate on roll-to-roll presses and presses operated in tandem with other equipment.

Copies of the report are available at $1 per copy. Write: Packaging Institute, 342 Madison Ave., New York 17, N. Y.

REVIEW YOUR PLANT'S LITHO INK PROBLEMS

. . . Correct Solutions Are Listed for Many Situations

IT is often said that everything in this world is relative, and certainly that applies to offset ink, which must work in conjunction with water, acid, paper, plates, rollers and atmosphere under varied conditions. Van Son Holland Ink Corp. of America has contributed to the solution of offset ink and allied problems through issuance of technical bulletins containing pertinent suggestions. Following are some of those fundamental facts and ideas taken from these bulletins.

Drying of Ink

The drying time of lithographic ink depends upon many factors, such as thickness of ink film, porosity of paper (newsprint vs. enamel coated), acidity of the water solution and amount used, humidity and temperature, and the amount and type of drier per pound of ink. Let us discuss each of these individually.

Thickness of Ink Film: Generally, the greater the amount of ink laid upon the image the longer the drying time. Also, the thicker the ink layer the more acid water that must be used. This is as critical as addition of driers.

Porosity of Paper: Paper surface variations could be likened to the range between a sponge (newsprint) through increasing hardness to glass (such as Kromekote). Unless you add some drier to your inks (when the paper surface is smoother and less absorbent), you will not achieve thorough drying and the ink will smudge or scuff whenever it is rubbed.

Acidity of Fountain Water: Commercial fountain solutions are very stable and generally do not have to be varied (ounces per gallon water) for many types of paper. However, as you increase the amount of ink to your plate you must also increase your water accordingly. This spells trouble both in poor reproduction and in slower drying time. Keep your ink at a minimum.

Humidity and Temperature: Temperatures above 70° aid in drying. Humidity above 60% relative causes drying to slow down very fast. Generally, humidity above 60% relative requires greater amounts of drier to cause the ink to dry hard.

Percent of Drier per Pound: This depends upon the kind of drier you use. Never use more than 1½ oz. per pound of Holland inks and it is preferable to stay around ½ oz. per pound 99% of the time. Cobalt driers are good, but take care in measuring the amount you add to the pound. Usually ¼ to ½ oz. is maximum.

Problems and Solutions

CHALKING—Chalking is a problem usually found when printing on coated papers, particularly the cast-coated stocks such as Kromekote. The pigment will lie on the surface of the stock, and can be wiped off with the finger even though the job may seem completely dry. It is advised that Kromekote be aired more frequently than regular coated papers. Failure to do this may result in loss of gloss and subsequent chalking effects.

DARKENING THE COLOR BY RUNNING MORE INK—Sometimes a pressman will want to make a color darker by running more ink. Too much ink calls for additional etch and water, thus upsetting the water vs. ink balance. Excess ink tends to cause fill-ins, ragged edges, and other poblems. There is the other extreme of too fine an ink film which can wear the image or set up a roller stripping action.

OFFSETTING—Offset on the back of the sheet may be caused by static electricity, running too much ink, or poor stock. Offset may be lessened or even eliminated by careful handling of stock and stacking in small piles, curtailing excess ink flow, and with the addition of a non-offset compound. Trying to make a light color darker by adding more ink is a sure way to cause offset.

POOR PLATES CAN RUIN INK—All troubles that point to ink are not necessarily caused by the ink itself. Probably the greatest offender in this respect is a poorly desensitized plate which requires excess water and acid to keep it clean. The ink picks up the acid water and becomes an emulsion. Instead of a bright and flowing plastic, it becomes dull and lifeless like dough. It loses its stickiness and printability. The printed image becomes grainy and the pressman tries more ink. This does more harm than good. Offsetting occurs in the delivery due to excess ink. The ink will not dry on the sheet because of excess water and acid.

PICKING—If the ink picks particles of the paper surface or coating, the ink may be too tacky for the particular stock. The addition of a thin varnish to the ink will cut tack. Normal care should be exercised to avoid over-thinning.

PAPER STICKS TO BLANKET—When printing large solids, if the paper sticks to the blanket, the ink may be too tacky and the above remedy should be followed. Other causes could be a tacky blanket and too much pressure between blanket and impression cylinder.

INK MISTING—Ink flying from rollers during press run causing tiny spots on stock is referred to as ink misting. Running too much ink, too much water, or a combination of both, glazed and improperly set rollers, can account for this problem. At one time or another it is present with all inks and the reme-

Heidelberg On Wheels — Heidelberg Eastern, Inc., Glendale, L. I., N. Y., utilizes a truck for door to door demonstrations of its 15 in. by 20½ in. cylinder press. Shown beside the truck at a recent demonstration in Binghamton, N. Y. are, left to right: George Pierman and William Beham, Broome Printing Co.; Andy Moore, Heidelberg sales and service; George Kelly, Broome; and John Kinlen, demonstrator.

dies are to check and clean rollers, control water and ink flow.

DRYING ON OVERPRINT JOBS —When printing color jobs it sometimes may happen that the second, third, or fourth color was not "taken" by the preceding color. This is caused by the fact that the first color is drying too quickly or that an unsuitable drier is used, causing the ink to harden too quickly. When printing process color jobs, only a small quantity of drier need be added to the first colors, and printing of the next color should follow with the least possible interruption. In cases where difficulty is experienced with following colors not "taking," the impression strength should be increased.

Check Your Press

Even though you have run a press for many years it is wise to re-check pressure and quantity settings of rollers and ink and water fountains. The following is a suggested check list for setting an offset press.

(1) Start with a plate containing a good halftone, a solid with some reverse lettering, and some body type.

(2) Have press washed up; no ink in fountain.

(3) Close all ink keys until they stop turning; do not force.

(4) Add a small amount of ink and spade evenly along entire length of fountain roller.

(5) Turn the roller by hand. If the ink layer is collecting at any one key area, close until the roller remains clean when turning it.

(6) Open each key one turn and observe if the ink film is even and uniform on the fountain roller.

(7) Set fountain roller rachet at one notch and proceed to ink up the press.

(8) When form rollers are inked, drop them onto the dry plate and note width of band left on the plate. This band should not be wider than 3/16 in. for each roller and should measure the same across the plate. This band should not be wider not have this setting.

(9) Move the plate cylinder around so that the ink bands are in position to contact the clean blanket and drop the plate to the blanket. The ink bands should be the same without any change in width and remain the same across the blanket. Re-set the blanket cylinder if the bands are not the same width at each end. Repack the blanket if the bands are wider than the plate bands by removing a point of packing; if the bands are narrower, add a point of packing.

Preparing Water Motion

The following steps should be followed in preparing the water motion on an offset press:

(1) Start with clean form and ductor roller covers.

(2) Clean out the fountain water bottle and the fountain pan.

(3) Pumice the metal vibrator roller and the fountain pan roller until it is thoroughly clean and then etch with equal parts of a fountain solution and gum arabic 14 baume. Allow the etch to dry on the rollers.

(4) If you operate Multilith presses, take off the spring pressure from the hold-down section of the metal vibrator roller.

(5) On regular production presses, check the pressure between the ductor roller and the metal vibrator. The feeler gauge should pull evenly at both ends. The same feel should occur between the ductor and the water pan roller when it comes back to contact. Make sure they are parallel to each other or the plates will dry up on one side or the other because of too much squeeze at one end of the rollers.

(6) Place the form roller (duplicator presses) in position and set it against the metal vibrator lightly (on Davidson equipment). Keep it even at each end and the middle. For other presses, set the bottom form roller lightly to the metal roller and then to the plate. After the bottom roller is set, place the top roller into position setting to the metal roller first and then to the plate.

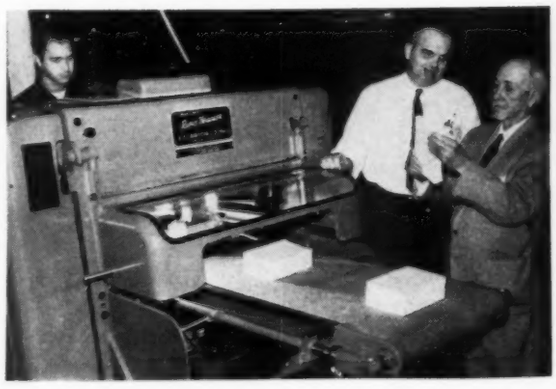
(7) Prepare your fountain solution in a gallon bottle. Use ¼ ounce of a regular solution to 1 ounce of gum arabic 14 baume to one gallon of tap water. Fill your fountain pan or bottle from this supply.

(8) Cloth covers will absorb an average of twice their weight of water before they deliver a uniform supply of that water to the plate. Therefore, allow time for the covers to be properly wet or your results will not be stable.

To obtain press sheets in proper ink and water balance proceed as follows:

(1) Have at least 100 waste

(Continued on Page 96)



200th Lawson Trimmer— Taylor Publishing Co., Dallas, Tex., recently installed a Lawson 3-knife rapid trimmer, marking the 200th such installation in the country. Taylor Publishing is one of the Southwest's largest publishers of school yearbooks. Pictured, left to right, are, Elbert Luttrell, operator; Frank Frimm, division manager of the bindery, and H. C. Taylor, chairman of the board.

Interest Grows in Letterpress Forum

Enthusiasm is growing toward the forthcoming Letterpress Forum to be conducted via closed-circuit television at the Hotel Statler, New York, N. Y., Sept. 27. Ben Grauer, television personality, will act as master of ceremonies, and J. Homer Winkler, technical adviser, Battelle Memorial Institute, Columbus, O., will provide a summation and analysis of the program.

Conducting telecast demonstrations will be representatives of the following participating firms: E. I. du Pont de Nemours & Co.; Consolidated Intl. Equipment & Supply Co.; Printing Developments, Inc.; Fairchild Graphic Equipment, Inc.; Chemco Photoproducts Co.; Short Run Color Corp.; Miehle-Goss-Dexter, Inc.; Minnesota Mining & Mfg. Co., and American Type Founders Co., Inc. Demonstrations will include newly developed letterpress plates and electronic processes.

Sponsors of the Forum are Printing Industry of America, Inc.; Intl. Assoc. of Printing House Craftsmen, and Research and Engineering Council, Inc. Registration is $12.50 per person before Sept. 17 and $15 after that date. Remittance should be sent to Letterpress Forum, 461 8th Ave., New York 1, N. Y.

Cerutti Press Installation—KVP Company, Kalamazoo, Mich., recently installed a six color Model American Cerutti rotogravure press for printing paper and foil food wraps. The press was sold through Parsons & Whittemore Graphic Corp., U. S. distributors of the Cerutti press line.

Rand McNally Publishes Color Map of the Moon

Rand McNally & Co. has announced publication of a color map of the moon. Based on photographs to assure accuracy, the map gives a comprehensive picture of the moon's surface as seen from the earth, showing and naming important craters, mountains, oceans and valleys. The map is 46½ in. by 26 in., and folds to 6½ in. by 10½ in.

In addition, side panels provide detailed, blown up photographs of some of the major features of the moon. The map also contains full color drawing of the first United States satellites. On the reverse side is a map of the planets, showing their size and distance relationships, as well as information and diagrams illustrating the diameters of the planets and the sun, eclipses, tides, and seasons, the earth and its atmosphere, and Halley's Comet. It is available in book, stationery and department stores, and sells for $1.

ROP Color Ads up 4.4%

In the first six months of 1958 newspaper ROP color advertising linage was up 4.4% over the first six months of 1957, according to the latest issue of *The Hoe Report on ROP Color*.

ROP linage was down 1.6% for June 1958 compared to June 1957, a loss which compares favorably with the loss of 4.8% in all other advertising. The 411 newspapers published in 132 cities measured by Media Records ran a total of 9,517,612 lines in June 1958 and 9,671,993 lines in June 1957.

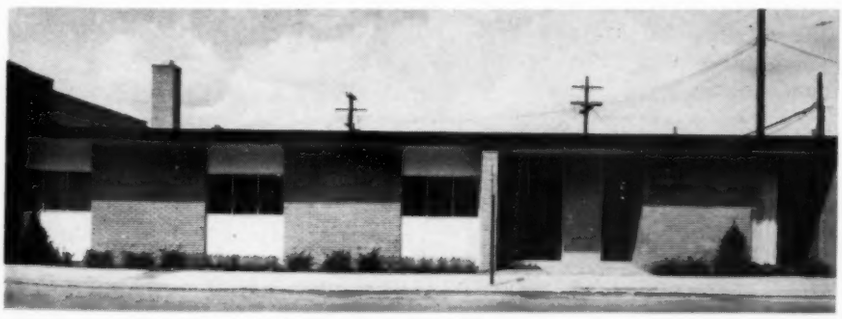
The report is published monthly as a service to the newspaper and advertising industries by R. Hoe & Co., Inc., New York, N. Y., manufacturer of newspaper printing presses. It is compiled by Media Records.

Perry R. Long Passes

The illustrious Perry R. Long, first president of the Intl. Assoc. of Printing House Craftsmen, passed away from a heart attack, Saturday, Aug. 23 at his home in Temple City, Calif. Following formation of a group of printing executives in 1919, the first convention, held in Washington, D. C., elected him as its president. He served as president from 1919 to 1921. The association now consists of 16,000 members in 117 local clubs.

Funeral services were conducted at Turner, Stevens & Turner Chapel, Alhambra, Calif., Aug. 27. Intl. Craftsmen president, Albert Kolb (Buffalo) attended the services.

Surviving are his son, Harold, residing in Los Altos, Calif., a daughter, Mrs. Eugene Marley, of Arcadia, Calif., and three grandchildren.



The Miehle-Dexter-Lawson Companies now occupy combined sales offices in the Marygrove Office Bldg., Wyoming at McNichols, Detroit. The territory manager, Harold H. Shierk (Miehle) and Stephen P. Larrabee (Dexter-Lawson) will operate out of the new offices. Phone is UNiversity 4-7070.

Gold Ink Used Successfully in Small Texas Daily

Gold ink was successfully used in a two-color advertisement for Knox Glass Inc. in a recent edition of the Palestine (Tex.) *Herald-Press*. It is said this is the first non-metropolitan daily newspaper to utilize gold ink successfully. The ink was supplied by Bowers Ink Co. and suggestions for its proper use were provided by the Oklahoma City (Okla.) *Times*.

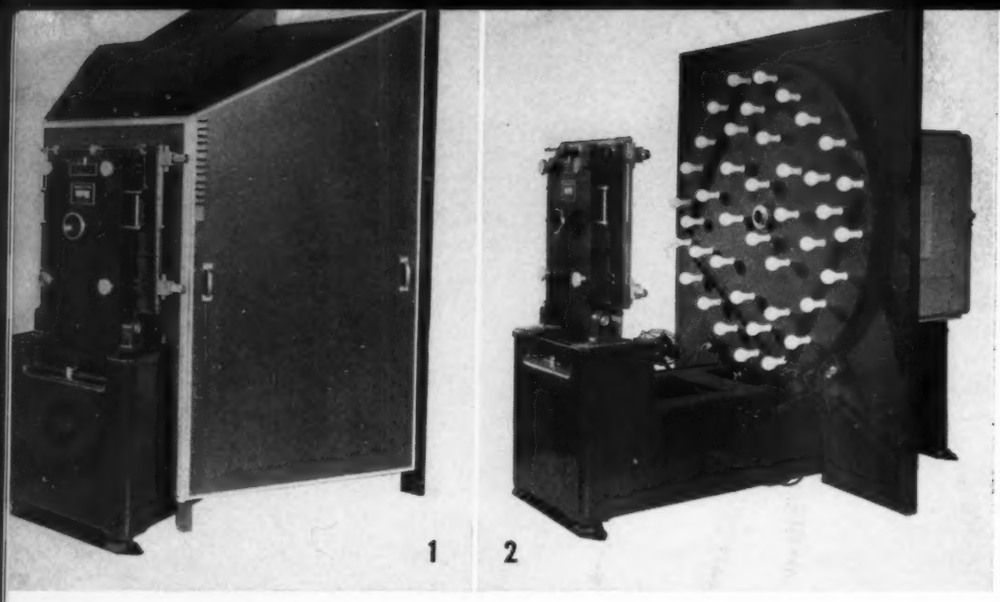


Fig. 1.—Closed view of Ludlow Brightype camera. Really, it's a special darkroom camera. Maximum image size is 30 in. circle. Maximum rectangle is 18 in. by 24 in. May be used to convert any combination of printng material directly into photographic images.

Fig. 2.—Printing image to be reproduced in the Brightype camera (shown with cover removed) is illuminated by Mazda lamps mounted on rotatable disk. Lighting means is part of darkroom wall. Heat from lamps is dissipated through duct at top by two fans.

Essentially Brightype Is a Conversion Process

THE Brightype System for photomechanical reproduction of printing images from letterpress forms, reproduction proofs or paste-ups was explained at the Detroit convention of the Intl. Assoc. of Printing House Craftsmen. The illustrated address was delivered by George Morrison, product engineer, Ludlow Typograph Co.

The equipment may be employed for producing letterpress and offset printing plates as well as for any other printing process.

The speaker stated he would discuss the more interesting accomplishments that have been done by the Brightype method because of the limited time allotted in which to discuss the process.

Work now being done by the Brightype process in various plants consists of conversions of four-color process plates, black and white copy from type forms, photographing of reproduction proofs and conversion of book plates. Encyclopedias, text books and quality books are being produced from old plates as well as new type.

Publication work is being done by the Brightype method.

Directory and catalog work is another field for Brightype use in which the conversions are said to be better than can be obtained by printing directly from the form.

In addition to the method used in making zinc letterpress plates, Brightype film is being used on magnesium and photopolymer plates.

Morrison stated that in book work (4 pages up) from 16 to 20 pages per hr. can be produced.

Brightype equipment is purchased outright.

The Equipment

Brightype equipment consists of a Brightype same size fixed-focus camera with its special frontal lighting equipment, and the necessary photomechanical preparation and developing equipment.

Preparing the Form

There are two methods of preparing a form. One method is to spray the form with a light absorbent coating in a solution which evaporates immediately. The other method is to coat the form with an optical black lacquer. The latter method is now recommended for forms containing halftones, as it has been found that preparation of the forms is more rapid by its use. In both methods the coating is wiped from the printing surface and rubbed with a clean rubber block. After inspection, the form is then put on the camera copyboard and held in a vertical position.

The Camera

The light source for exposure is mounted on a disk about 5 ft diam., which constantly revolves around the lens of the camera within an enclosure. The disk is studded with a number of Mazda lamps, which in revolving produce a light that is reflected from the form and evenly distributed over the plane of the sensitized material. The maximum photographed area is an 18 in. by 24 in. rectangle.

Publication Work

Brightypes are now being used for publication work, as it has been found to be particularly adapted to this type of operation. It has been found that the most economical method of handling publication work is to make up the pages on an end lockup galley and then lock the page on the galley instead of tying up the page in the usual manner.

Assembling the Form

Ads are made up as usual, together with the halftones supplied by the advertiser. Where letterpress illustrations are furnished, they are made up into the text in the usual manner. However, when text halftones are to be stripped into the Brightype positives, the form would be blanked out for these halftones.

The text halftones are made on an offset camera in the usual man-

(Summary of address delivered before Detroit convention, Intl. Assoc. of Printing House Craftsmen, August 1958, by George Morrison, product engineer, Ludlow Typograph Co.)

ner and a contact print is made from them on thin base film by flopping the halftone negative. The end result is a laterally reversed positive halftone which has been made slightly over the size called for by the layout.

This operation can be handled economically by exposing a batch of films at a time and then trim each halftone film to size. The Brightype positive is then taped down, emulsion up, and the thin base positive halftone is attached to it, emulsion up, by means of a rubber cement coated over the entire halftone positive. Another method of securing this halftone positive is to cut ¼ in. strips crosswise of a gummed kraft paper tape. The gummed paper can be wetted and slipped under each corner. By holding the corner with a finger while the tape is pulled out, the film is securely fastened.

Stripping Work

This stripping method works satisfactorily as long as the halftone is 4 pts. away from any image on the Brightype positive. This allows full contact to be made in the vacuum frame without any loss of image. Sometimes it is required that the halftone image be closer to the type work than 4 pts. and for this type of work, a Brightype positive can be made on PB or Cronar film, which are stable in size. Then, instead of making a contact print from the negative halftone on thin base film, it is made on strip film. In this case the halftone is not flopped.

In wet stripping the strip film on the stable base film, it is stripped emulsion to emulsion. No adhesive is required. The halftone as photographed is slightly larger than the space it is to occupy. This requires cutting into the halftone image to make it fit. When this is done, no hard edge appears and no stopping out around the edges is required. This is an unexpected result. Of course, with this method no opaquing is involved.

Trade publication work involves the use of letterpress printing elements and these elements have usually been printed from in other publications. One of the peculiar advantages of the Brightype is that no makeready is involved in converting these elements and an extraordinarily good reproduction is obtained even though the plates are worn. In many cases it has been found that the time of conversion by means of the Brightype is less than the usual makeready time.

Fig. 3.—The letterpress form to be reproduced is first cleaned chemically or with a large rubber eraser to remove any resist or oxidation from printing images. Form is then sprayed with liquid lampblack which dries quickly.

Fig. 4.—After form has been sprayed with lampblack, coating on printing surfaces is removed by means of rubber eraser. Due to field depth of camera lens, variations in type high (0.025 in.) can be photographed.

Letterpress Conversion

Another interesting development for letterpress work is the Brightype conversion of letterpress forms to letterpress forms. This conversion can include letterpress halftones or film halftones. This letterpress to letterpress method requires a positive made on the Brightype in vertical position. The product is a wrong reading positive.

This wrong reading positive is then printed down on a fine grain zinc plate by means of the Pitman Verse Print Process which is essentially a reversal method. This method consists of coating the plate in the usual manner with the Verse Print solution and exposing the Brightype positive on it. This light hardened emulsion is then developed and recoated with another sensitized coating. This second coating is given an all-over exposure and is developed out in the usual manner. The plate is then etched by the fast etch methods in common use. An extremely good zinc plate is made economically. This is a simple and direct method for making letterpress plates.

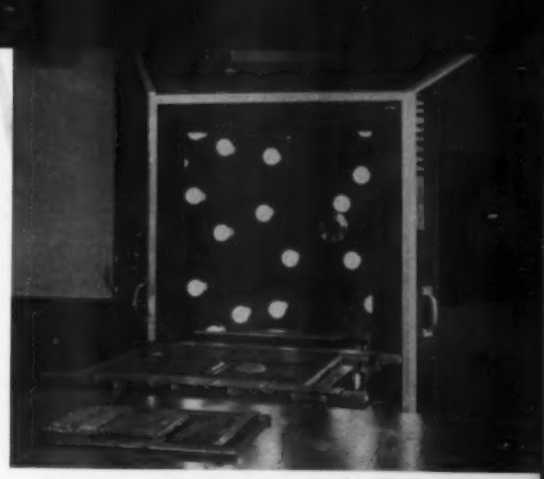


Fig. 5.—Front view of Brightype camera with disk cover in place. Copyboard is in horizontal loading position. Form is locked in chase. After locking in chase, copyboard is swung to vertical position in front of camera lens. Ventilator at top permits heated air from lamps, forced upwardly by two fans, to escape. When pressed, a button actuates the constantly rotating lighting units and controls exposure time.

Conserve Proofer's Energy

In an issue (not so long ago) of one of the printing industry association publications there appeared a short item entitled: *Why Lift Heavy Proof Press Base?* It was suggested that the heavy one-piece base be cut in two at a machine shop. In this way, the press operator could lift two lighter pieces of solid metal base when necessary to proof galleys of type. We suggest it would be much more advantageous to secure a light weight bridged metal base which is available. This lighter base will permit conservation of the press operator's energy. The cost of the light weight one piece base will be recovered shortly in better press operation.

Consolidated Appoints Dealer

Ernest Payne Corp. has been appointed exclusive New York, N. Y. distributor for Consolidated Intl. Equipment and Supply Co.'s. printing equipment lines, according to Benjamin Sugarman, president. The firm has also been named dealer for Consolidated camera and platemaking equipment.

CRAFTSMEN ATTEND

Knowledge

Composing, platemaking, press and bindery developments aired at Detroit convention. Kolb is new Craftsmen president.

THE annual opportunity for printing plant production executives to receive an intensive three-day briefing on the newest developments and trends in the major printing processes was provided at the convention of the Intl. Assoc. of Printing House Craftsmen held at Hotel Statler, Detroit, Aug. 10-13.

A registration of 820 Craftsmen and their ladies were on hand to witness the installation of Albert L. Kolb as president of the International. Kolb is manager of the printing department operated by Marine Trust Co., Buffalo, N. Y. He succeeds Ferd Voiland, jr., Topeka, Kan., to the high post.

In other contests for association offices, Thomas L. Cooper, president, Southern Photo Process Enraving Co., Atlanta, Ga., was elected vice president. Three new governors elected were: Harry M. Faunce, Rumford Press, Boston; Michael Imperial, Skinner Kennedy Co., St. Louis; and Harry C. Link, Link Printing Co., Philadelphia.

Mark H. Carothers, printing department manager, First National Bank, Dallas, was reelected treasurer. Three governors remaining on the board are: Ernest Ducharme, composing superintendent, Webb Publishing Co., St. Paul, Minn.; Robert M. Edgar, president, Neyhart Printing Co., Pittsburgh, and Alfred L. Peters, vice president, Thomas C. Peters Printing Co., Utica, N. Y.

A contest also developed for selection of the 1960 convention city. Craftsmen delegates chose Atlanta, Ga., in preference to Indianapolis. Atlanta has scheduled the convention for the Dinkler-Plaza Hotel, Aug. 7-11.

The 1959 convention, which was voted upon last year, will be held in New York City in conjunction with the Graphic Arts Exposition to be staged at the Coliseum. Convention hotel and dates are: Hotel Statler, Sept. 5-9.

The convention program, planned under a Detroit Craftsmen committee headed by A. Ted Annen, vice president, Shelby Photo Engravers Co., offered a number of entertaining features in addition to the many educational clinics.

Selections and winners in Craftsmen sponsored activities were announced at various meetings during the convention. Miss Saundra Edwards, Warner Bros. studio starlet, was named queen of the 1959 Printing Week celebrations. A. R. Tommasini, superintendent, University of California Press, Berkeley, Calif., was awarded *The Inland Printer*'s Craftsman of the Year plaque.

A design submitted by Emil Georg Sahlin, Buffalo, N. Y., captured first place in the Printing Week stamp contest. Gustave Ahrenhold, Leo Burnett Co., Chicago, took top honors in the Printing Week poster contest.

New officers of the Intl. Craftsmen's Assoc. Seated, left to right: Michael Imperial, St. Louis, governor; Mark H. Carothers, Dallas, treasurer; Albert L. Kolb, Buffalo, N. Y., president, and Thomas L. Cooper, Atlanta, Ga., vice president. Standing: Governors Robert M. Edgar, Pittsburgh; Alfred T. Peters, Utica, N. Y.; Harry M. Faunce, Boston; Harry C. Link, Philadelphia, and Ernest Ducharme, St. Paul, Minn.

Letterpress Gaining Faster Than Offset

WHILE it is true, said Floyd C. Larson at the Intl. Craftsmen's Convention, that many letterpress shops have added offset equipment in the past the new trend today is for the formerly exclusive litho houses to add letterpress. Larson, who is executive secretary-treasurer, Intl. Assoc. of Electrotypers & Stereotypers, Inc., Cleveland, was one of five speakers who participated in a clinic program devoted to letterpress developments held at last month's Detroit convention. Moderator of the meeting was Earl Bierbauer, vice president, VanderKloot Press, Detroit.

Larson maintained that letterpress printing now accounts for

By MacD. SINCLAIR, *Editor*
and EDWARD H. OWEN, *Associate Editor*

e haring Clinics

from 75% to 80% of the total annual printing market. Using latest census figures, he said in periodical printing by process, letterpress accounts for 83%, gravure accounts for 10% and offset lithography for 7%. He added: "These figures further indicate a combined growth of somewhat less than 4% in gravure and offset during the seven years preceding 1954."

Business Forms Boom

Continuing his case for letterpress, Larson said: "In two of the most rapidly expanding fields of the printing industry, business .forms printing has had a 400% increase in sales volume since 1947 and is today a $400 million industry. Over 70% of this sales volume is done by letterpress and no other process has gained percentagewise over letterpress in this field during the reporting period.

"In a recent survey of the folding carton industry . . . 88% of reported production was done by letterpress, 6% by flexography, 4% by offset and 2% by gravure printing."

The speaker also mentioned that Printing Industry of America has reported letterpress sales as increasing 6% during the past year as against a 4% increase for offset, and for the first time in the past few years the profit was higher for letterpress than for offset. He also maintained that offset no longer holds the advantage of low labor costs.

Larson quoted an industry source as saying that modern record keeping will show that in certain work it is more expensive to strip in a negative than to buy an engraving. From another source, he said it was established that all-inclusive hour costs for offset presses were from 20% to 50% higher than for comparable size letterpress units.

Need for Retraining

In the early part of his address, Larson said there was a need for retraining of letterpress compositors and pressmen in order to accelerate the progress of letterpress printing. He added: "Perhaps we need to teach and to impress them only with the importance of composing room precision and what must become new and modern pressroom practice. Certainly the compositor must learn to deliver a precision job to the pressman. The press-

Craftsmen at Detroit
(All names read from left to right)

1—H. C. Mitchell, owner, Litho Negative & Plate Co., Oklahoma City, Okla. and Earl S. Ellis, sales manager, Western States Envelope Co., Milwaukee, Wis. 2—Perry Long, Los Angeles, first president of the International, and Harry S. Scott, Inc., Baltimore, Md. 3—Henry Dende, president, Dende Press, Inc., Scranton, Pa. and Robert T. Hendershot, industrial relations manager, Eureka Specialty Printing Co., Scranton, Pa.

Part of the New York Craftsmen delegation on hand to publicize the 1959 convention: Louis Van Hanswyk, LouVan Typographers; Charles J. Felten, Messenger of the Sacred Heart; Ed Blank, New York Employing Printers Assoc.; Mark and Benjamin, sons of Mort Sendor, Sendor Bindery; Charles V. Morris, Reinhold-Gould, Inc.

Detroit model, Dottie Maybury, provided the glamour at a special exhibit set up on the convention floor to call attention to New York City as the 1959 Craftsmen convention site. The convention is to be held in conjunction with the Graphic Arts Exposition scheduled for the Coliseum.

man must abandon his practice of cutting out paper dolls and the other time wasting ritual which he has gone through traditionally before starting a press run."

He lashed out at the "1920 production standards" followed in many plants and at the tendency of printers to always blame the press manufacturer. He said: "The manufacturer cannot step up the thinking of the pressman. Printing plant owners generally make little or no effort to correct this situation. The letterpress process and letterpress printers are thus a victim of traditional and obsolete production standards, and their own ignorance or refusal to do anything about it. The same thing is true of the offset pressrooms generally, many of which penalize the offset process through poor quality standards, excessive paper waste and inadequate production."

Larson said the challenge to letterpress printers was to "keep up with the times" and suggested that they must not be slow to adopt proven new methods and to replace obsolete equipment.

Can Compete with Offset

A description of the Heidelberg 15 in. by 20½ in. single revolution flatbed cylinder press was offered by the next speaker, James McCann, general sales manager, Heidelberg Eastern. He also added his weight to the argument in favor of letterpress by saying, ". . . we do feel that there are many jobs today being run offset that could be done with modern letterpress, not only from a quality standpoint, but also on the basis of cost to produce."

The Heidelberg organization, he said, has established that printers generally are looking for the following features in cylinder letterpress equipment: (1) Rigid, unyielding impressional strength. (2) Precise ink distribution and coverage for any form that will fit on the press regardless of whether it be type, halftone, solid or mixed. (3) Quick change-over from job to job, from smallest to largest sheet size or in-between. (4) High, practical production speeds. (5) Perfect register at all speeds and at different speeds on the same job.

Rubber Plate Printing

Rubber Plate Printing in Small Shops was the topic of a talk by Norman X. Guttman, eastern manager, Orville Dutro & Sons, Inc. He cited the advantages of rubber plate printing as: (1) Low cost of materials. (2) Little or no makeready on the press. (3) Less wear and tear on press equipment. (4) Ease of storage of rubber plates. (5) Long printing life (from 300,000 to 500,000 impressions). (6) Ease of deleting or substituting major or minor changes. (7) No impression or "punch through." (8) Less ink consumption. (9) Being able to print on all kinds of stock.

Guttman said the small shop has been able to enter the rotary printing field because of the advantages which exist in rubber plates. This holds true, he added, of the presses which print a main form in one color, imprint and number in a second color, perforate and attach a sheet of one time carbon all in one operation—at speeds up to 20,000 i.p.h. A method of treating electrotype plates, developed by Minnesota Mining & Mfg. Co., was explained by E. S. Nederostek, sales manager, of 3M's Printing Products Div. The plate treating system (see *Printing Equipment Engineer*, April 1958, page 43) provides a means of producing greater detail in the duplicate plate. Nederostek reported good results of this process in the magazine printing field.

The speaker said his company

The Southern belle at the Craftsmen's convention was Mrs. Catherine Armstrong, wife of an Atlanta, Ga., Craftsman, who helped focus attention on the 1960 convention to be held in her city. She is shown with Walter Hershey, Lanston Monotype Co., Philadelphia.

firmly believes research is necessary for progress in any business. He added: ". . . refusal to investigate new methods of production . . . will eventually prove costly to the degree that you eventually must close your doors in the face of competition."

Curved Magnesium Plates

Advantages of using curved magnesium plates were enumerated in a talk given by Floyd R. Lear, jr., vice president, Industrial Engraving Co., Inc., Easton, Pa. He listed these advantages as: (1) Because this is a precision plate, actually you are printing from originals and based on production procedures and press conditions, you might expect up to a 50% makeready time improvement. (2) Accurate register and no need to cut plates apart for registration. (3) Under normal printing conditions, a chrome plated magnesium plate should outwear an electrotype two to three times. (4) Press smashes that ordinarily require a new electrotype would be resisted by the magnesium plate, necessitating only a change of the tympan paper on the impression cylinder. (5) Ability because of good register to use step and repeat negatives to gang up to a reasonable press plate size to cut down on the number of plates to register. (6) The light weight magnesium plates are easily han-

dled by pressmen and minimize the storage problem. Shipping charges are also at a minimum.

Lear suggested to the printers in the audience that in running magnesium plates there must be an understanding on the part of the press crews as to the objective of using this type of plate. He noted there has been resistance at the pressroom level to magnesium plates, and said it makes a difficult situation for a fair evaluation of these plates.

Management and Cold Type Dominate Detroit Composing Clinic

THE Composing Room Clinic held at the Detroit Intl. Assoc. of Printing House Craftsmen's convention was dominated by discussions on research, phototypesetting and composing room workflow management. At this session, Intl. Governor Gordon T. Matson presided as chairman. He was assisted by C. M. (Larry) Flint of Charles T. Main Co., Boston, as moderator.

Those who spoke and their subjects were as follows:

Allan S. Holliday, Science Press, Lancaster, Pa. spoke on *Composition Variables;* Howard King spoke in place of Sheridan Skogen who was scheduled to appear to speak on the subject of Intertype Company's Fotosetter; *The Photon in Commercial Application* was discussed by Wm. Garth, jr. president, Photon, Inc.; *Linofilm Celluloid Makeup* was discussed by Herbert O'Sullivan, Mergenthaler Linotype Co.; *Photocomposition by Monophoto* was described by Walter E. Hershey, Monotype Div., Lanston Monotype Co., Philadelphia; John Porter, vice president sheet fed sales, American Type Founders, discussed *ATF Film Machine; Modern Composing Room Practice* was handled by the last speaker on the program, Wm. A. Wertheimer, Plant Superintendent, Michigan Typesetting Co., Detroit.

Phototypesetting Equipment

During a discussion period, there was comment from the floor in which a speaker stated he was somewhat confused about phototypesetting equipment. In other words, the equipments discussed by the various speakers—were they for complete phototypesetting and developing equipment? Someone from the floor also wanted to know the prices of the various equipment discussed by each company representative.

Hershey stated that in connection with phototypesetting equipment one must have controlled developing equipment. This is of great importance in composition so that page after page can be reproduced on film from a quality standpoint. It is necessary to have a temperature controlled sink together with a system of timing that must be used for best results. A darkroom, vacuum frame, light tables, etc., enter into the necessary equipment for properly doing production work, in ad-

More Views of Craftsmen

(All names read from left to right)

1—Raymond S. Via, sales manager, Baker Webster Printing Co.; R. Lyn Cave, foreman printing department, Brewood, Inc., and Joseph Weingarden, foreman of night pamphlet bindery, Government Printing Office, all of Washington, D. C.

2—Roland Lambert, vice president, Service Engraving Co., Indianapolis, Ind.; Andre Hugues, Printing Dept. manager, Harry Turner Assoc., Topeka, Kan., convention sergeant-at-arms, and Joseph Bright, general manager, Indianapolis (Ind.) Electrotype Foundry.

3—Andy Monroe, Hess & Barker, Inc.; Peter D. Nielson, manager of printing processes, Moore Business Forms, Inc., Niagara Falls, N. Y., and Joseph Morris, vice president, New Era Mfg. Co.

4—James E. Slaughter, vice president, General Printing Ink Co., Div. Sun Chemical Corp., New York, N. Y.; Charles Andrews, vice president, E. P. Lawson Co., Div. Miehle-Goss-Dexter, Inc., New York, N. Y.; Elmer E. Bredensteiner, secretary-treasurer, Success Printing & Lithographing Co., Inc., Indianapolis, Ind., and Morris Greenbaum, vice president, Graphic Arts Finishers, Boston.

5—Harold Sanger, printing teacher, Marshall High School, Chicago; Harold Crankshaw, printing teacher, Montgomery County High Schools, Maryland, and Paul Bennett, typographer, Mergenthaler Linotype Co.

dition to the phototypesetting machine.

Each of the five speakers quoted prices of his company's phototypesetting equipment.

Composition Variables

Holliday discussed somewhat briefly the amount of research that is currently being conducted in the printing industry. He said the industry is suffering from a lack of standardization all the way through. He said the Research and Engineering Council's interest in the printing industry is to investigate and coordinate research activities. Particularly in the composition field there are too many variables.

He named the five R&EC task forces which are currently active. These are as follows: (1) Copy marking procedure task force; (2) Blue sky composing room; (3) Study of procedures in the composing room; (4) Task force for the establishment of type high standards, and (5) Task form for improvement in phototypesetting equipment and methods.

The type high task force has already reported. (See page 48, July 1958 PRINTING PRODUCTION.)

Holliday also reported that the paper on *Blue Sky Composing Room* is now ready for distribution to Research and Engineering Council members. He said it is now possible to operate a composing room with electronic equipment. His closing comment was: "There is a great deal of work to be done in the fields of research and standardization".

Phototypsetting Equipments

Chairman Flint introduced five representatives of manufacturers of phototypsetting equipment. Some equipments have been on the market for some time and others are presently available.

Howard King, speaking for Intertype Company, discussed the Fotosetter (for description see p. 64, June 1958 PRINTING PRODUCTION).

Photon in Commercial Application was explained by William Garth, jr. (see illustrated description of Photon equipment, p. 66, June 1958 PRINTING PRODUCTION).

Herbert O'Sullivan talked about Mergethaler Linotype Co.'s Linofilm under the subject *Celluloid Make-up* (see illustrated description, p. 65, June 1958 PRINTING PRODUCTION).

Challenges to Printing Industry

Abstracted from address by Moderator C. M. (Larry) Flint before Detroit Intl. Craftsmen's convention, Aug. 1958

If printing industry continues to turn a cold shoulder on research, new developments will come slowly. The reluctant printer will find that his competitor is way out in front.

This is the greatest period of research activity in the history of the printing industry. However, there is a reluctance to try the new developments. Nothing can be accomplished by sitting on your hands waiting for something revolutionary which you think will solve all your problems.

Every new development requires intelligent adaptation and each one creates new problems. These problems can best be solved with the help of the printer.

Walter E. Hershey discussed *Photocomposition by Monophoto* (see illustrated article, p. 66, June 1958 PRINTING PRODUCTION).

The newest phototypesetting machine was discussed by John Porter (see p. 38-39, April 1958 PRINTING PRODUCTION).

Composing Room Practice

In his address, *Modern Composing Room Practice,* William A. Wertheimer, plant superintendent, Michigan Typesetting Co., Detroit, talked interestingly and informatively regarding workflow control in the composing room as well as the most economical manner in which the work is to be handled.

He said practices vary in different composing rooms throughout the country. The practices to be followed are governed by the kind of work which is done in any particular composing room. All composing room executives are trying to do work at a price that the customer can afford. He said equipment alone is not the answer to profitable operation. One must also consider progressive changes in the customer's needs as time passes. His composing room is so outfitted that if a customer needs a job in a hurry the work can be split among two or more operators.

He spoke of the importance of non-productive work, such as the filling of spacing material racks in keeping the type cases filled.

In his plant, the entire management is sensitive to the need for training young apprentices to succeed the older men.

The type metal in the plant is checked every two or three weeks.

The complicated task of time keeping on a job has been simplified by installing an IBM system. Through this system, the time consumed on any given job may be assembled quickly. Through the system it is also possible to bill the customer promptly.

One of the main objectives in the Michigan Typesetting composing room is to train assistants to the foremen so that when the man in charge is away from his work the work will flow smoothly.

The bulk of the work done by Michigan Typesetting is in reproduction proof form. For this purpose accurate proof presses must be used—especially for color, film and quantity proofs.

Precision saw-trimmers are used —and are kept that way.

In composing room operation, the important thing is the saving of time. Thus maintenance of equipment is an extremely important item.

Wertheimer stated that in his composing room all type slugs are kept as close to 0.918 in. as is humanly possible.

The service department in the composing rooms decides whether a job should be set on the Monotype or a linecomposing machine. At this time, he said what was "almost a complete blueprint" is made before sending to the composing room foreman.

Wertheimer explained that all foremen and assistants (in the absence of the man in charge) are held responsible for work going through the plant.

Equipment is duplicated so a job can be split. Also, if part of the job is line-slug composition and part Monotype, the copy is sent to the machine so that the work can be done simultaneously.

The work is so laid out that

the Monotype caster man can divide it among two or more machines.

The bank man assembles all of the material for each job so that the makeup man won't need to hunt for various units making up the composition.

The proofreading department checks all copy as it is sent in. If there is doubt about anything, a customer is queried on the proof. After makeup of a job has been completed proofs are again checked in the proofreading department.

Included in equipment used at Michigan Typesetting Co. is a large modification camera by which typelines can be condensed, expanded, slanted and the like for use in platemaking.

"If you want to keep up to date in type composition," the speaker concluded, "you must keep making changes".

Production Tips on Foil Printing

GENUINE evidence that printers are interested in how to print on and handle aluminum foil was displayed at the Detroit Intl. Craftsmen's Convention held on Aug. 10-13. One entire session of the convention program was devoted to production tips of how to print on foil.

The Craftsmen in the audience were enthusiastic about learning the techniques and suggestions for processing the thin metal which is now being done by all major printing processes (see PRINTING PRODUCTION, Aug. 1958, page 39). Examples of its use for newspaper ads, magazine inserts, direct mail pieces, point-of-purchase displays, business cards, etc., were shown during the course of the presentation.

On hand to answer questions were a half dozen specialists who have actively participated in different areas of aluminum foil printing. The clinic program was preceded with remarks by Harold T. Shehan, assistant manager, converter market, Reynolds Metals Co., who discussed the advantages of using foil as a new medium for promoting printing sales. He disclosed a booklet is being prepared by Foil Laminators Assoc. on uses of foil and how to sell it. The booklet will be available to the printing industry.

Printing Foil Two Sides

A member of the audience was curious about printing on two sides of foil. Aluminum foil is presently supplied with a paper backing, but J. J. Hennessey, Shermann-Hennessey Printing Co., Chicago, said converters can now laminate two thin layers of foil together with a sheet of paper sandwiched between. This makes it possible to print on both sides of foil which Hennessey said

Some of the More Than 800 Convention Attendants in Detroit for Craftsmen Meet

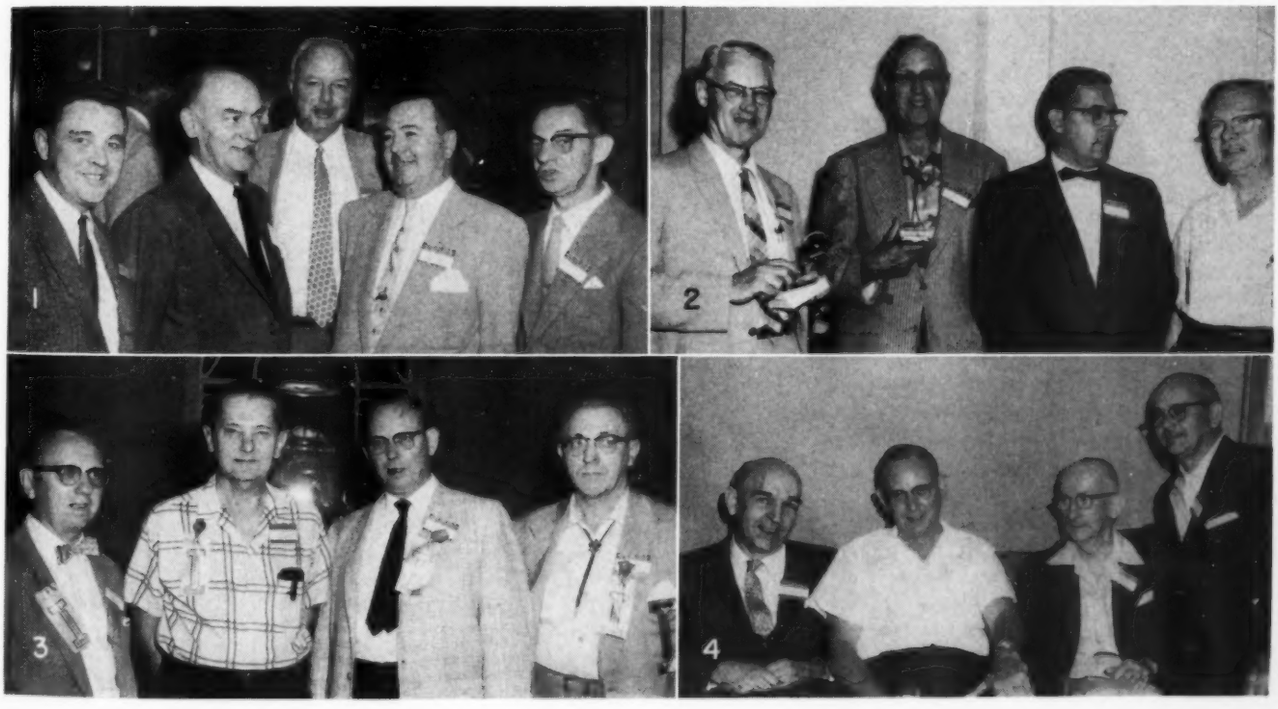
(All names read from left to right)

1—David Campbell, Sinclair & Valentine Ink Co.; Eddie Varin, superintendent, Pierre DesMarais Printing Co., Montreal, Can.; Robert Hutcheson, Bush Roller Co., Toronto, Can.; Noel Crevier, plant superintendent, and John McLellan, press superintendent, both of Harpell's Press Cooperative, Montreal, Can.

2—Arthur Colton, C. O. Owen & Co., Chicago; E. Hawley Twiss, National Publishing Co., Philadelphia; Alan S. Holliday, Craftsmen, Incorporated, Kutztown, Pa., and J. Desmond Mulhall, Trinler Steel Rule Die Co., Los Angeles.

3—Marvin Lohr, president, Michigan Litho Graining & Supply, Inc., Detroit; Harold Lauck, manager, Journalism Laboratory Press, Washington and Lee University, Lexington, Va.; Adrian Gardner, plant superintendent, Judd & Detweiler, Inc., Washington, D. C., and Donovan Weddle, production planning, Shumate, Inc., Lebanon, Ind.

4—Morris Reaves, superintendent of composition, Government Printing Office, Washington, D. C.; Adrian Gardner, general superintendent, Judd & Detweiler, Washington, D. C.; H. E. Rees, press superintendent, L. H. Jenkins, Inc., Richmond, Va.; Fred L. Willis, Jr., Printing Ink Div., Interchemical Corp., Charlotte, N. C.



Participants in the printing on aluminum foil clinic held at the Craftsmen's convention included, left to right: J. J. Hennessey, president, Shermann-Hennessey Printing Co., Chicago; Harold T. Shehan, assistant manager, converter market, Reynolds Metals Co.; K. M. Greenwell, product supervisor, Reynolds Metals Co.; A. Ted Annen, Shelby Engraving Co., Detroit; William Klomp, research director, General Printing Ink Corp., Div. of Sun Chemical Corp.; Milt Pierson, president, Flair Studios, Chicago, and Tony Zurek, Process Color Plate Co., Inc., Chicago.

is already being done on a small scale. He added that it was more difficult to do by letterpress than offset.

There was some concern on the part of Craftsmen about drying inks in foil printing. This is no problem unless too much ink is used, said William Klomp, research director, General Printing Ink Corp., Div. of Sun Chemical Corp. Klomp admitted, however, they were still working on inks in connection with applications to foil, but suggested printers continue to use present inks. Heatset foil printing is not enough to dry the ink. Klomp said that sometimes heat will help in drying, while other times it will not. He suggested using warm or natural air circulation for best results.

Another questioner asked if there was any standardization of aluminum foil sheet sizes. Shehan agreed it was needed because there is too much variation in sizes now. The sheet size is usually governed by the end product. No effort is being made yet, said Shehan, to standardize on sheet sizes.

How do you figure the cost of foil, asked a member of the audience. He was told it was usually determined by the weight of the backing paper.

How effective is non-offset spray in printing on foil by letterpress or offset? Hennessey replied that it works very well and he found best results by using a dry spray.

Much Depends on Workers

Skill and ability of craftsmen seem to be the determining factors in successful printing on aluminum foil, according to panel members. For example, someone asked for suggestions in feeding foil into the press. Hennessey said they have experienced no trouble in this respect and foil should feed well on any type of feeder. Much depends upon the know-how of the pressman. In his plant, they use men who do nothing but set up feeders. He remarked they have done nothing to the press except add a couple of air blasters at the end of the feeder to hold the foil sheets up in the air.

The discussion then went into the amount of static in foil. It was agreed there was more static in a lift of foil because of the greater weight of the stack. It depends, said Hennessey, on the paper backing and how much it picks up static. In his plant they use Chapman static eliminator bars and Oxy-Dry sprays.

A member of the audience wondered if there was more curl in foil printed by one process as against the same job printed by another process. Hennessey said it makes little difference. There is a curl in all foil because it has a tendency to shape. He said there are a number of things a pressman can do if he has a normal amount of skill. One suggestion he mentioned was that they try to get the most coverage on the first time through the press to prevent curling. They have also run up to 500 sheets on a solid white before racking.

Earl Bierbauer, vice president, VanderKloot Press, Detroit, thought the problem of curl in foil has to do with humidification. He recommended controlling relative humidity at 45% in the pressroom. He said a steam humidifier will prevent both curl and static. Foil will not change in dimension, he added, but the paper backing will.

No Tricks in Platemaking

Spokesman for making plates for use in foil printing was Tony Zurek, Process Color Plate Co., Inc., Chicago. He told the Craftsmen there were no special problems in platemaking and no tricks connected with it. He recommended etching plates clean and sharp. His firm has found that by breaking up a solid to about a 75% value, better coverage is obtained.

This last remark led someone to ask how much coverage can be obtained on a sheet. He was told there is no set rule and that it would have to be worked out in his own plant. One panel member said they have covered up to 25 in. by 38 in. sheets successfully.

Reynolds Metals Co. can now supply a sheet of aluminum foil with minimized curl, reported K. M. Greenwell, product supervisor of Reynolds. The sheet has a controlled moisture content. He said you can't fold foil as sharply as regular paper and advised more care is required in folding.

Milt Pierson, president, Flair Studios, Chicago, and a panel member, handled questions dealing with art preparation for foil printing. He said foil is available in a full range of colors for producing many jobs.

Zurek was asked if presensitized offset plates could be used for short runs on foil. He thought they

(*Continued on Page* 68)

Supply Salesmen Elect Officers

Intl. Printers Supply Salesman's Guild officers for 1958-59 were elected at the organization's Detroit convention, Aug. 9-10. A total of 75 Guild members and their wives registered for the convention.

Following are the newly elected officers: Louis A. Croplis, American Type Founders Co., Inc., New York, N. Y., president; Herbert L. Mitchell, *Graphic Arts Monthly*, Los Angeles, vice president; Francis J. Tominey, New England Printer, Boston, second vice president; Charles S. Tompkins, Tompkins Printing Equipment Co., Detroit, secretary, and Harold Deck, Deck-Keene Associates, Chicago, treasurer.

Automatic Mold Cooling For Linecomposing Machines

By LEE DISSETTE, *Chief Machinist, Flint (Mich.)* Journal

THE problem of recessed display slugs sticking in the mold at ejection has been discussed at a number of mechanical conference meetings. This occurs on linecomposing machines equipped with continuous mold cooling blower equipment. For instance, if the operator does not turn off the blower when he goes to lunch or to get a drink of water, the mold will be of too low a temperature when he resumes his position at the machine. On the other hand, if he doesn't turn on the blower after he resumes his work, a back squirt may occur after a number of lines have been cast. Apparently, this trouble does not occur on all machines. But it is of frequent enough occurrence (as in our plant) that passing along information as to how we overcame the problem is warranted.

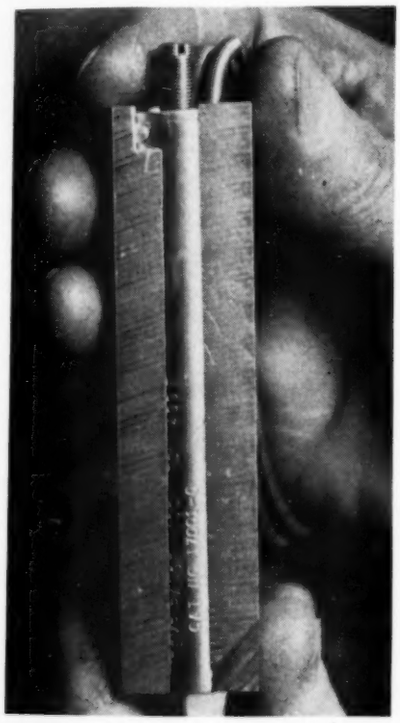


Fig. 1.—Here is shown how a Fenwall Thermo-switch (temp. range from 100 to 400 deg. F.) is mounted in a recessed aluminum block. The switch controls temperature of molds on a six pocket linecasting machine mold disk. Slot in the block is approx. ¼ in. wide. Block is positioned on the ejector blade guide so there is a space of approx. 0.020 in. between switch and mold cap.

Modified Cooling Device

Here at the *Journal* we have gotten together a device for automatically turning on and off the mold cooling blower. This is a modified version of a device developed by Leslie Grubbs, a Dayton, O., linecomposing machinist.

The machine to which we applied the modified device is fitted with a six pocket mold disk. Range is from 14 pt. through 45 pt. molds. We have found through operating experience that setting the Fenwall Thermo-switch (the temperature control element) to maintain a mold temperature just below that of room temperature gives best results.

When the operator leaves the machine for a drink of water or for lunch, the thermo-switch automatically turns the mold cooling blower on and off according to temperature of the mold itself. When the operator returns to the machine and has cast from four to six slugs, the blower is turned on automatically. He doesn't need to turn on the blower by a hand switch.

It might be pointed out that this device is not a cure-all for misadjusted driving clutches and slipping belts.

At the moment (August) we have two of our machines equipped with automatic mold cooling. The machines are working well.

Switch and Fittings

For the temperature regulating means, a Fenwall Thermo-switch (range 100 deg. to 400 deg. F.) Catalog No. 17001-1, rated 10 amp., 115 v., a.c. or 5 amp., 230 v., a.c., is used. The switch casing measures ⅝ in. diam. by 3¾ in. long. For the mounting back of the mold (when in normal position) the switch is encased in an aluminum block, dimensions for which are: ⅞ in. as viewed in Fig. 1, by 25/32 on closed sides, by 3¾ in. long. A ⅝ in. hole is bored off-center the length of the aluminum block for reception of the Fenwall switch casing. This must be snug fit.

As shown in Fig. 1, the switch casing is exposed through the slot

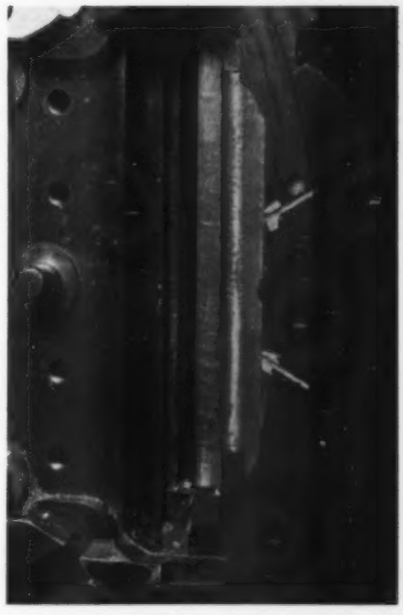


Fig. 2.—This is a section of a six pocket mold disk in normal position. The mold has been removed to show location of the mold cooling blower temperature control device. The device is mounted on the ejector blade guide immediately back of the mold.

in the aluminum block so the block opening is ¼ in. In other words, the switch casing projects through the block opening approx. 0.022 in.

While the ejector blade guide is removed from the machine for installation of the temperature control unit, the blower nozzle can be applied to the ejector blade guide temporarily. The purpose of this as mentioned previously, is to permit a paste mixture of regular asbestos packing between the inside surface of the nozzle and the temperature control unit to eliminate the air pocket behind the unit. The pocket is filled with the asbestos paste mixture flush with the right-hand edge of the temperature control unit. This results in deflection of the air stream directly to the mold cap. After the asbestos paste

has dried the nozzle then can be removed.

Mounting the Control

The temperature control unit can be fastened to F-2325 ejector blade guide as follows: Two holes for two 8 by 32 flt. hd. screws are drilled, countersunk and tapped 3¼ in. vertically between screw centers; 1¾ in. from bottom of blade guide to center of the lower hole; ½ in. from front edge of ejector blade guide to center of top hole; countersink the holes on the pot side of the guide.

The aluminum block itself is mounted on the ejector blade guide in such forward position that the switch body clears the back of the mold caps about 0.020 in. when the mold disk is revolving.

Asbestos packing is used to fill in the air pocket at the back of the aluminum block so that the air stream is forced to the mold cap.

The switch lead wires are enclosed in a 16 in. length plus exposed connecting length of ⅜ in. diam. Greenfield cable. The hand switch is by-passed. Approx. a 1 in. length of the cable sheath is unwound so as to permit fastening the cable securely to the aluminum block (see Fig. 3). The two 4 x 48 rnd. hd. screws hold the cable extension securely. At the other end of the cable is fastened a Rodale heavy duty plug with clamp for holding the plug securely.

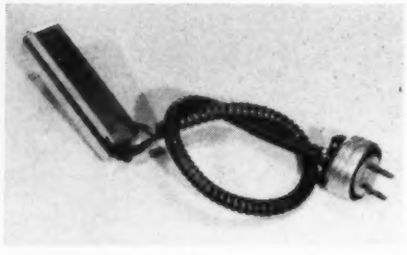


Fig. 3.—Greenfield cable connector which carries current from temperature control switch and mold cooling blower motor on linecomposing machine.

Electrical connections were made in the blower motor junction box by cutting in the line between the existing switch and the motor. A heavy rubber covered cord was used with the plug to feed the Fenwall switch. The armored cable attached to the aluminum block and switch was taped to the upper nozzle of the blower to prevent the Greenfield cable becoming tangled with moving parts of the ejector slide.

Hold Down Job Do-overs By Using These Suggestions

By ERNEST W. FAIR

HAVE those kickbacks on printing jobs been a plague in your plant lately? Has one such required do-over taken all the profit out of half a dozen other good profit jobs done in the shop at the same time?

No printing plant management has ever been perfect enough to prevent the existence of this plague. But the truly successful ones are always able to keep their number so small they have never seriously affected the profitable operation of the business.

There is no magic method in attaining this most desirable end. Most highly successful printing plants have at least one system or method of keeping job do-overs at the very minimum. Every plant should in like manner protect its profits. Here are a number of the proved methods by which even the smallest shop can successfully keep do-overs at a minimum.

Progressive Inspection

Inspect every job, no matter how small, not just upon completion but at every stage of its production. Too often we make one final check of completed job against copy. A checkup all the way from composition to binding can spot a fault early. In many cases, correction can be made which will either prevent a possible complete job do-over or waste of major part of the run or stage already finished. The final check-over can never prevent the need for additional work. It only prevents an unsatisfactory job from being delivered to the customer. Taking the extra precaution of carefully inspecting each stage of the single job is the best of all methods of catching mistakes and errors before they have become costly.

Don't rush the proof into production without a check-over for any variances from normal procedures required in production of the job. If such exists make certain they are so specified and also that they are assigned to the men in the plant most capable of handling them.

Get OK on Final Proof

Make certain you have an OKd proof of the final proof of the job *before* it is put into production. Where corrections vary greatly from the original copy make certain (1) They are right and witnessed by customer signature, and (2) Where merited and profit factors are involved, the customer has also OKd the additional charges involved.

Signed OK on the original copy and on proofs of each stage of multi-color and other complicated jobs can also prevent many do-overs. Making colors and other specifications clear and detailed and having these signed as being what is desired by the customer will prevent disagreements later on which are always costly to the printing firm.

Don't Stint on Quality

Eliminate the temptation to stint on quality in inks, paper, etc., used on any given job in an effort to make a profit from a too low bid or estimate. Every such step leads to dissatisfaction on the part of the customer and either a lost customer to the business or the costly procedure of having to do the job over again. Quality work comes only from use of quality materials on every job; only the admitted price cutter and cheap operator uses substandard materials and he cares little whether or not the customer comes back.

Check *all* equipment before each job is started; don't take it for granted that because everything was all right the last time the unit was used it remains so. A lot can happen between jobs. Malfunctions in printing plant equipment are usually caused by carelessness or poor maintenance and they invariably lead to heavy losses on job runs in any plant, large or small.

Have it a fixed rule to experiment on shop materials and supplies—not on a customer's job. Trying out a new idea in the middle of some job is seldom sound. It is good procedure when done beforehand. No printing plant superintendent or firm executive should ever discourage ingenuity or the search for new ways of doing things on the part of his staff but he should also make certain these do not add to operating cost in the business.

Another frequently made mistake in many shops is to expect top quality work by printers with worn out equipment and materials. It just can't be done. Where the effort is being made continuously, there is always a large percentage of jobs which have to be done over. The small savings involved in the replacement of such equipment are eaten away again and again through such losses.

"Sorry girls, I have a replacement for you on this gathering job."

Sharp Color Register

Where a color run requires sharp register get set with stock waste rather than expensive paper being used on the job. Make extra runs on primary colors to have sufficient for checking register later rather than use part of the job. Plenty of such checking makes certain that everything is right before additional colors are run. Poor register on a multi-color job is certain to be the cause for sending it right back into the plant again—and at great loss.

The Short Cut Temptation

One mistake we some times make is to try short cuts when the unexpected occurs and a loss looms on an estimate. Only in the rarest of cases will this work out satisfactorily. Usually the end result is a complete job do-over and a great deal more loss than would have occurred if we had admitted our mistake in the first place and taken the small initial loss involved. The only value we can secure from such mistakes is in learning the lesson well and seeing to it that the same thing does not happen on any future job estimate.

If the job calls for new papers, inks or processes insofar as the staff is concerned, make certain information about their use and peculiarities is at hand and everyone knows about them before work on that particular job begins. If we have not prepared ourselves with such data and information in advance we cannot only make mistakes in estimating but similar mistakes can be made in the shop on the job run which will certainly result in a do-over on that particular job.

Be a pest about cleanliness —dirt can ruin any job. The men in the plant may start grumbling about your finickiness but sooner or later they are going to get the habit also. In such a printing plant doing over jobs is a most infrequent occurrence.

When the occasion arises where it is obvious that your own men lack the know-how to handle a particularly difficult job it is much better procedure to farm out that phase of the job to a plant where such experience is present than to try to blunder through. Blundering through is always costly in any work; it always pays in the long run to get someone who knows what he is doing for such jobs.

Handle the finished job with care and caution and give it all the protection you can; store it properly until delivery to the customer. Carelessness in handling finished jobs has accounted for many, many spoiled jobs in printing plants all over the country year-after-year.

Try to eliminate carelessness.

Meeting Date Set by New Flexo Group

A new Graphic Arts group, the Flexographic Technical Assoc., will hold its organization meeting Fri., Sept. 26, Biltmore Hotel, New York, N. Y.

According to Frankin Moss, chairman of the group, FTA will provide cooperative studies and group discussions on quality control, production techniques, troubleshooting procedures, training methods, evaluation of new developments, standard practice surveys, and related subjects.

Membership will be comprised of personnel in production, research and management who are concerned with technical aspects of flexography. This will include engineers, chemists, superintendents and foremen as well as top management personnel.

The meeting Sept. 26 will be an all day session with luncheon, and will be open to present and prospective members of FTA. Moss will serve as chairman for the meeting.

Meeting reservations and/or membership application forms may be obtained by writing Franklin Moss, Mosstype Corporation, 150 Franklin Turnpike, Waldwick, N. J.

Quality Control Seminar

The eighth annual Statistical Quality Control for the Graphic Industries Seminar will be held at Rochester Institute of Technology, Rochester, N. Y., Oct. 27-31. The seminar, which will be open to the executive echelons of management, will be under the directorship of Donald Macauly, president, Paper and Printing Quality Control, Inc.,

Inadequate employee consideration is leaving its toll on newspapers reluctant to adopt proven personnel methods

'Miracle' Needed in Solving

NEWSPAPER PERSONNEL PROBLEMS

By J. HAROLD MINTUN
Production Mgr., Pittsburgh Press

I COULD answer the question "What does the mechanical department want from the personnel department?" very briefly by saying —"a miracle." But to be more complete I asked the same question of some 20 newspaper production men whose opinions anyone would respect. Their answers have been integrated with my own in the following.

In developing better ways of operating the mechanical side and the related departments, we have found that there was one side of the business we had done very little about. People are needed to do all these things. Many publishers found that putting in the machines and new methods was just the start. People had to run these new machines and do these new procedures and the results attained were in direct proportion to the thinking and planning on the personnel level.

This brought on the need for personnel departments. Personnel men have the problem of selling new thinking to an audience that does not seem to want to hear them. The newspaper business has long been reluctant to recognize that it is a manufacturing business, and that good manufacturing procedures are just as important with us as it is in a company making nuts and bolts.

What Production Men Want

Of the production men queried there were two types of replies—those who wanted to be relieved of administration chores and those who hoped something might be developed that would better the industry's manpower problems. One of the best replies came from a representative of a large newspaper who wrote as follow: ". . . I am so confident that newspaper mechanical operations are today paying the penalty for the publisher's reluctance to become involved in personnel operations years ago, that I have been advocating the creation of a tailor-made program for us for at least five years. Last fall, our management agreed to the point where we have had a survey in progress of all departments."

A Five Point Program

(1) Selection of apprentices: It has been the practice in the printing industry to select a brother, son, cousin, or just about anyone who expressed a desire to become an apprentice, regardless of his abilities, attitude and capabilities. This slipshod method of selecting apprentices is one of the reasons why our journeymen are much less skilled than they were 10 or 20 years ago. It is also responsible for the fact that it is becoming more difficult to select a foreman. We are proposing that our personnel program provide for screening and testing of all employees, in order that only the most capable will be indentured as apprentices.

(2) Selection of foremen: One of the most common questions that I run into is, "Where can I get a good pressroom superintendent?" or "Where can I get a good assistant production manager?", etc. In other words, papers are searching for good men to operate their mechanical departments which reflects on the type of apprentice who was selected 10 or 15 years ago. It also reflects the fact that the newspapers were not too careful in the past in the selection and training of foremen.

Some of us have better foremen than others, but in my opinion that was due to the fact that someone in management was a judge of good horseflesh at a time when operations were rather limited and everyone knew everyone else. We are proposing that our personnel program establish a set of rules governing the selection of a foreman. Such an individual would have to pass emotional and psychological tests, as well as reasonably simple aptitude tests.

(3) It has been our observation that newspapers have been woefully lacking in the training of the men whom they entrust with the responsibility of being their foremen. It is true that representatives of management have frequent discussions with them, etc., but to the best of my knowledge, no paper in the United States has developed a program for training foremen. We propose that our personnel program include a method of training foremen: Teaching them how to get along with people and how to convey instructions to workers, the necessity for doing a good job.

(4) It has been the practice in the newspaper industry for each foreman to make his own rules and regulations on the application of employee benefits and welfare programs which are not covered under contract. As a result of this, a lack of uniformity develops between departments. The placing of all such items under one head would insure uniformity and would make for better employee relationships.

(5) Communications have been sadly neglected. A method is needed of acquainting an employee with management's policies and objectives. Most people can perform a better job for management when they know what management wants and why it wants it. We occasionally become involved in a dispute in one of our mechanical departments and when we finally

get to the bottom of the dispute, we find that the foreman or assistant foreman either neglected to explain why he wanted a certain thing done a certain way or may have even told the employee involved that it was none of his business, to go ahead and do it.

Interruptions in Production

Another production executive wrote as follows: ". . . . . recent years have seen the addition of a lot of benefits which constitute irregular claims upon the employer by the employee. As the nearest representative of the employer, I am the unfortunate target for most of these claims and I view all of them as irrelevant interruptions to my work.

"If a fellow workman gets hurt on the job, I'll see that he gets needed medical attention, see that he is paid for the day, and file an accident report. I may even visit him at his home or at the hospital, but I don't want to get involved in his claims for compensation and accident insurance.

"If he dies, I don't want to get involved in his insurance. I'd like to have someone who will give quick and adequate service to all of these irregular claims. Only by means of such service can it be emphasized that all of them are benefits conferred by the employer, and to be appreciated as such.

"Very few people have the knack of quickly evaluating the possibilities of a stranger as a potential employee. I'd like to take on such people on a temporary basis to get time to weigh their possibilities and shortcomings. Since this is not possible, I'd like the assistance of someone with professional training in this respect to build a pool from which I can select without the fear that my snap judgment will be too wrong. I have to account for, live with, and cope with the mistakes I make in this manner."

(To Be Continued)

System Guards Press Against Fire Damage

Installation of an automatic fire extinguishing system on a rotogravure press in the plant of Nielsen Litho Co., Cincinnati, O. provides numerable safeguards and benefits. Not the least of these is the protection afforded the press, a major investment by Nielsen, against possible damage from fire.

Another important advantage is the realization that much downtime can be avoided should a flash fire occur on the press. There are safeguards, too, against revenue losses resulting from downtime. Installation of the fire extinguishing system has also resulted in an insurance premium reduction.

The press in question is a Champlain five-color rotogravure. It is designed to print up to 0.30 in. paperboard, foil or cellophane, up to 36 in. wide, at a rated speed of 800 f.p.m.

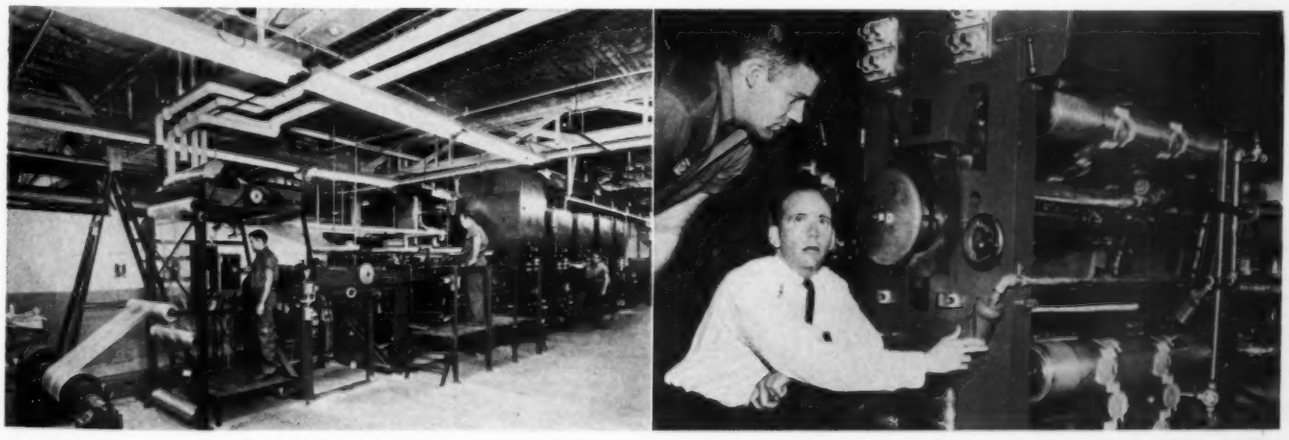
An early decision was made, says Nielsen's John Ramsbottom, that the press be equipped with an automatic fire extinguishing system that immediately would quell any fire in flammable inks and keep the fire damage to a minimum.

Working with Champlain, engineers of Walter Kidde & Co., Inc. designed and installed a carbon dioxide fire extinguishing system for the press. The system has rate-of-temperature - rise fire detectors mounted directly above each ink fountain. If fire flashes these elements automatically actuate four 75 lb. cylinders of carbon dioxide adjacent to the press.

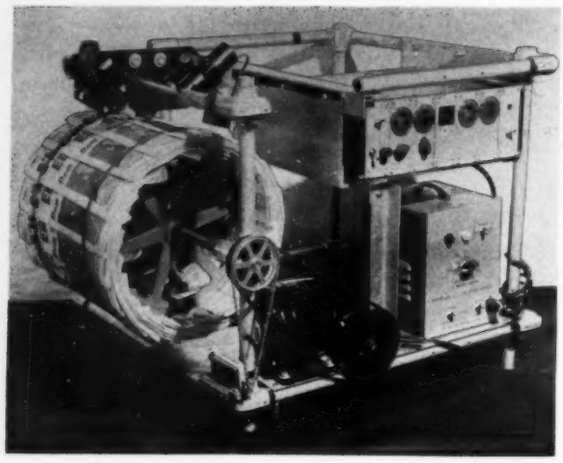
Under its own pressure the gas escapes from its cylinders and passes through piping to Multijet nozzles which are strategically located on press units and hot air driers. In seconds the nozzles discharge sufficient carbon dioxide to completely envelop the press. The inert gas reduces oxygen in the air around the press to a degree insufficient to support combustion and the fire is smothered.

Should a reflash occur, a second bank of carbon dioxide cylinders is available which can be actuated manually. If the fire is out, by throwing a switch they can be placed on automatic fire guard while the main bank of cylinders is being recharged.

It is important that in case of fire all power for the press be turned off and its forced draft ventilation be shut down. This was accomplished by installing pressure operated switches in the carbon dioxide piping. As the gas floods past the switches it actuates them causing electricity to motors and blowers to be turned off.



At left is the five-color Champlain rotogravure press in the plant of Nielsen Litho Co., Cincinnati, on which a Kidde fire extinguishing system has been installed. The picture at right shows a Kidde representative explaining to a Nielsen pressman how one of system's Multijet nozzles functions to smother a press fire with carbon dioxide gas.



Laboratory device for testing the Goss newspaper counter. Sensing device of photoelectric counter is mounted above a rotating drum (top, left) simulating a newspaper conveyor. Prototype model of counter has also been tested under actual press conditions at Garden City (N. Y.) *Newsday*.

Goss Newspaper Counter Operates Photoelectrically

A DEVICE FOR counting newspapers on a press delivery conveyor is under development by The Goss Company, Miehle-Goss-Dexter, Inc. A report of the progress in this work was made by L. R. Durant, assistant manager, Goss' Materials Handling Div., at the recently held ANPA Mechanical Conference.

The counter, which is currently being field tested, shows promise, said Durant, as an integral part of a counter-stacker and also for use as a separate counting and totalizing system. One of the decisions made in the early studies was that the unit should possess a sensing means for detecting each newspaper as it passed a given point.

It was decided that the half fold of each paper should be used as the sensing point. After this came the decision to develop a pick-up which would be entirely non-mechanical in operation and would not require any physical contact with the newspapers. This decision was made because of anticipated problems in vibrations and obtaining adequate time response in a mechanical device, and also because of the possibility of damaging a sensitive mechanical feeler in the event of a jam in the conveyor.

Operation of Sensing Head

The scheme selected is photoelectric in principle with operation based on creating a shadow at each half fold by means of a beam of light, and then detecting each shadow with a photocell. These principles are schematically shown in Fig. 1. The light source, with a simple lens system, projects its beam of light from behind the half fold, as indicated, thus creating a shadow ahead of the fold. The photocell unit, viewing from ahead of the fold, sees the shadow and counts it by closing a circuit.

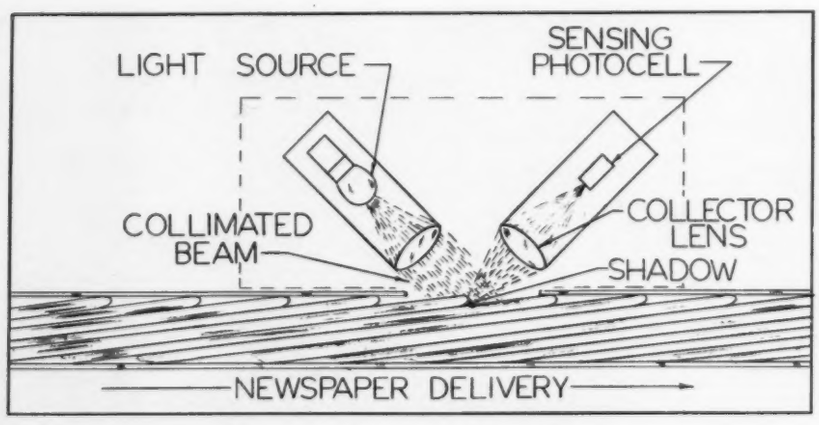


Fig. 1—Operation of Goss newspaper counter's sensing head is based on creating a shadow at each half fold of a newspaper by means of a beam of light, and then detecting each shadow with a photocell. This is shown schematically in above diagram.

The testing to date has indicated that newspapers with laps between folds as small as one-half inch can be accurately counted.

An important requirement of the sensing unit is that although it must count half fold shadows accurately, it must not count black type or pictures on the surface of the newspapers. This factor has proved to be no problem, reported Durant, since light is always reflected from a printed surface no matter how black, whereas the shadows reflect no light. The photocell can be set so that these differences in light values between a black printed surface and the shadow area eliminate the problem of false signals from black print.

Variations in the height of the stream, he continued, will probably not require any mechanical self-leveling device, nor other adjustment, since a substantial variation in stream height can be automatically compensated for by the use of a relatively large diameter beam of light. To further minimize this problem, the sensing head will be mounted immediately adjacent to a roller in the conveyor system.

Mounting Arrangement

A typical mounting arrangement appears in Fig. 2. A hood is placed over the sensing device primarily for dust elimination since the light beam is bright enough to permit counter operation in normal room lighting. A stream of air flowing over the optical elements provides insurance against accumulation of paper dust. The device is designed for connection either to plant air supply or to a small, integral blower.

The sensing head is mounted on a rod spanning the conveyor. The problem of detecting kick sheets has been solved by mounting the head on this rod to permit positioning at any point across the width of the newspaper. The kick sheet

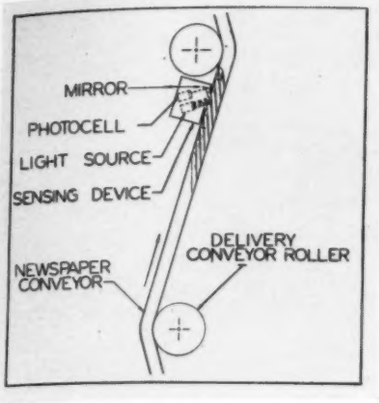


Fig. 2—Mounting of Goss newspaper counter sensing head in press delivery conveyor. Actual installation provides for mounting sensing head on rod spanning conveyor.

will be detected and counted regardless of its angle, provided its half fold is visible. The sensing head is set at any lateral position across the conveyor at which the kick sheet is visible and does not obscure the fold of the paper ahead of it.

Typical Counter Installation

Fig. 3 is a block diagram of a typical counter installation. Six sensing heads are indicated, located on six press deliveries. The output from each head is fed into an electronic storage and totalizing device which will sum continuously the total number of papers delivered from any desired combination of press deliveries. Flexibility will be provided in this equipment in order to permit totalizing simultaneously printed editions on a number of deliveries, as well as by individual conveyors. These continuous totals can be converted into a number of optional types of readout, both indicating and printed, and at any number of desired remote locations.

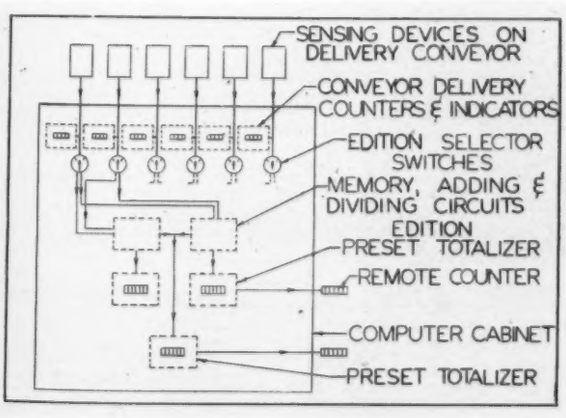


Fig. 3—How the Goss counter works on a combination of press deliveries. Six sensing heads, located on six press deliveries, are shown. Output from each head is fed into an electronic storage and totalizing device which will sum continuously the total number of papers delivered.

Longer Life for Offset Blankets

"How can we extend the life of our blankets?" was a question directed to Charles W. Latham in a recent Lithographic Div. Bulletin published by New York Employing Printers Assoc., Inc. Following is a summary of Latham's remarks concerning offset blanket life.

A common detriment to blankets is improper washing. Oxygen is an enemy of rubber and without some inhibitor the blanket would break down quickly. In blanket manufacture, certain anti-oxidants are combined with the rubber. Some blanket washes remove the anti-oxidant, thus shortening the life of the blanket materially, while other washes may leave a film on the blanket that contributes to glazing.

The glaze that forms on blankets makes them useless as printing mediums. It is composed of absorbed vehicle, oxidized rubber, residual ink, gum, and etch. Only complete and thorough cleaning will keep glaze from forming, and only a few blanket washes will remove gum and etch. A good scrubbing with pumice and Lestoil each night will help prolong the useful life of a blanket. Kerosene, turpentine and typewash should never be used on blankets or rollers.

Smashed Blankets

Many blankets, of course, are discarded because of mechanical damage. Blanket smashes that result in low spots are common on presses that have feeder or gripper troubles. A shallow smash is not serious if handled correctly, but if it is compensated for by placing another whole sheet of packing under the blanket, the quality of printing will be lost and plate life will be reduced.

When a light smash or even a serious smash occurs, the blanket should be immediately scrubbed clean and removed from the press. It should be soaked in a tray of clean water overnight, then hung up to dry. Light smashes affect the fabric only, and soaking the blanket will bring it back to full thickness. On a more serious smash, soaking will take care of some of the damage and patching will take care of the rest.

After a smashed blanket has been soaked and hung up for a week, it may be put back on the press and tested for patching. The shape and depth of the indentation must be known in order to do a good job of patching. Shape of the smash can be found by packing the blanket for a 0.001 in. kiss and rolling it up solid. Depth can be found by use of a packing gauge.

When the blanket is printed solid with exception of the low area, one end of the blanket is loosened and the outline of the area is traced on the underside of the blanket with a pencil. Tissue patches are then applied in the low area.

Blankets should be rested periodically to allow absorbed ink vehicle to disperse. This retards embossing and adds to life expectancy. A blanket should not be run for more than a week at a time unless it is to continue on a close register job.

Every press should have two or three blankets so that there will always be a spare in case of a smash and also to provide a rest for each blanket. Two blankets, properly cared for, will last longer than four blankets run continuously.

GTA Issues 1958 Bulletin

Talks and reports delivered at the 1958 Gravure Technical Assoc. convention, held in New York, N. Y., have been published in a 180 page Bulletin. Covered are 71 technical reports and talks. Copies may be obtained by writing Edward S. St. John, executive secretary, Gravure Technical Assoc., 30 Rockefeller Plaza, New York 20, N. Y.

Tips on Foil Printing

(Continued from Page 60)

wouldn't offer any difficulties and said some plants are now using them for this purpose. Proceeding on the kinds of plates to use, it was opinion that copperized aluminum plates provide a little better results than deep etch or surface plates.

Which Process is Best?

The panel was then asked for an opinion on what process provides the best results from a quality standpoint. Hennessey replied that it depends upon the number of colors and length of run. Greenwell was not sure. He said the offset process provides good quality because they are able to obtain close registration. If rotogravure presses are equipped with electronic register controls, he added, you will be able to obtain good quality.

A Craftsman in the audience, Harry Fritz, jr., Pittsburgh, said a thumb print leaves a mark on foil. He advocated careful handling and related that employees in his plant had to use gloves on one foil job. They also used rubber rollers in folding the job instead of the regular knurled rollers on the folder.

Lack of Research Hampers Graphic Arts

LACK of organized industry-wide research has hampered progress in the printing industry was the chief complaint of Hy Safran, president, Safran Printing Co., Detroit, in a prepared address given at the Intl. Craftsmen's convention in Detroit last month.

Speaking on the subject, *Web Offset: The 4th Dimension,* Safran reminded his audience that the printing industry is "spending less than a penny for every research dollar spent in general industry." He said research expenditures by printers, according to a recent report, average only 17c per $1000 of sales, compared to a national average of $20. He compared this to the fact that the sales volume of printing in 1959 will be six times more than it was 20 years ago.

Will Outstrip Other Processes

Safran has become the industry's spokesman for web offset printing. Speaking in this connection, he said: "We believe that heat-set web-fed lithography promises to outstrip both letterpress and gravure in the future race for color supremacy in quality and economy." He said he preferred to call this process lithography rather than offset because "offset actually is the smudge on the back of letterpress printing."

As evidence of his confidence in the process, Safran's president said his firm has already invested considerable money in the direction of web offset printing. He also reported they will soon install a 10-color Cottrell web offset press. The speaker cited research as the reason for making "web offset the most promising printing process now on the horizon."

Safran appealed to Craftsmen ". . . to help us organize your knowledge through research so that you may have something to share that will be more productive and will return greater dividends to our growing industry." He suggested the following could be done: (1) Recognize the need for research. (2) Organize research effort. (3) Support research adequately both with funds for professionals and executive time of our craftsmen. He concluded, ". . . we would actually save money and get better results simply by sharing our knowledge in research as you try to share it in day to day production."

Offset and letterpress developments were discussed at the Craftsmen's convention by Hy Safran (left), president, Safran Printing Co., Detroit, and Stanton Saunders, vice president, Cottrell Company, Sub. of Harris-Intertype Corp.

Progress in Rotary Letterpress

Progress in the rotary letterpress field was also discussed on this same program by Stanton Saunders, vice president, Cotrell Company, sub. of Harris-Intertype Corp. He impressed upon Craftsmen that there now is a strong deviation from purchasing standard presses to desiring highly specialized presses.

He said this was part of the trend to specialization by the nation's printers and predicted that the industry would get into further specialization in the future. The Cottrell firm, he related, conducted a survey to determine a common size and speed range for its future publication presses. Each company surveyed wanted special format presses to do the same job which led Saunders to conclude that too much money is wasted in supplying these.

Answering the charge of letterpress critics that the process has not been improved, Sounders said the press cost of producing a magazine page has not increased in 25 years. He attributed this to the technological advances made in press equipment.

Sheeter-Feeder Device

The Cottrell vice president described a company-developed roll feed device for letterpresses which sheets to any desired size and feeds directly to the press. It may be installed permanently to the press or moved away from press and used on another machine. Purpose is to provide the printer with a means of effecting a paper savings by doing his own sheeting direct from rolls. His company, said Saunders, surveyed 32 paper companies to determine the cost of roll and sheet paper. It showed that it costs a printer on the average of $37 per ton for sheeting by a paper company. Saunders held

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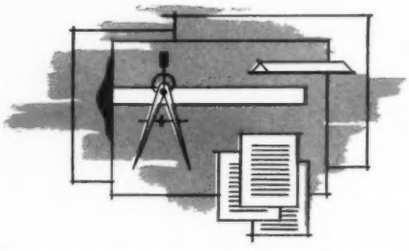
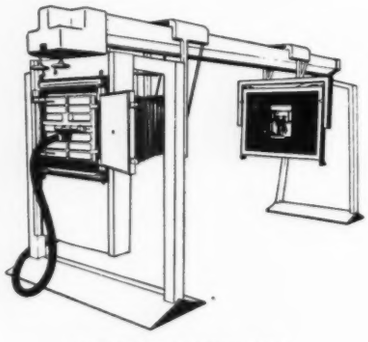
LAYOUT AND STRIPPING TABLES

DOT ETCHING TABLES





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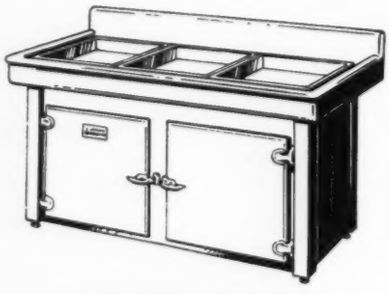
VACUUM PRINTING FRAMES



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that one of the roll feed devices would pay for itself within 9 to 15 months. He reported Cottrell is now working on application of the device to offset presses.

The speaker described with the aid of slides a number of the newer Cottrell presses. One press, a five-color double ender, concluded the speaker, does the work of six Cottrell five-color presses running at three shift capacity.

Direct and Wet Offset Methods Are Discussed at Craftsmen's Clinic

FOR the offset clinic held during the Detroit convention of the Intl. Assoc. of Printing House Craftsmen, Intl. Governor Robert M. Edgar of Pittsburgh, Pa., served as chairman of the meeting. He was assisted by Charles King, president, Calvert Litho Co., Detroit, as moderator.

There were six speakers in all, as follows: Stew Edmonds, jr., vice president, Direct Image Offset Corp., who spoke on *Direct Image Offset.* George Morrison, Product engineer, Ludlow Typograph Co., through an illustrated address, discussed Ludlow's new platemaking process which is called Brightype; John Colwell, The Colwell Co., Minneapolis, Minn., took for his subject *Organized Three Color Process Printing; The 3M Brand Dampening System* was discussed by Al Huber of the Minnesota Mining & Mfg. Co.; Chesley F. Carlson, president, C. F. Carlson Co., through a speaking movie, discussed the *Carlson Photocomposing Spacer;* the last speaker was John C. Jackson, Cincinnati (O.) branch manager for American Type Founders Inc., who spoke on *Cost Production and Profit—Small Offset Press Equipment.*

Direct Image Offset Process

Edmonds explained that the Direct Image offset process is a simple, inexpensive method of making lithographic plates directly from letterpress type and photoengravings. Press pre-production time is reduced to 15 min. or less.

The speaker said that the Direct Image offset process is suitable for production of repetitive work such as telephone books and other directories, catalogs, price lists, time tables, tariffs and weekly newspapers the owners of which might wish to take advantage of a rotary web printing offset process.

The Direct Image offset plate itself consists of dry-grained aluminum foil, laminated to impregnated card stock, which is made in sizes and thicknesses for all standard offset presses. Any precision open-bed letterpress or proof press may be used to imprint the form on the plate. In taking the proof, the plate is impressed or "embossed"—that is, the images are depressed into the foil side of the plate. A special transfer ink is used in printing the plate. After suitable processing, a special debosser brings the plate back to level condition.

During the question and answer period Edmonds stated a plate could be debossed in 3 min. The speaker also explained that 60,000 impressions had been obtained from plates in his own shop. Acceptable 120 line halftone screens, including Fairchild Scan-a-gravings had been produced. The plate is 0.012 in. thick. Plates as large as 45½ in. by 54 in. have been made. Success of the process is dependent on willingness to do some pre-makeready in the form, the solids projecting 0.002 in. above type high.

Ludlow's product engineer, George Morrison, explained in some detail and by means of slides how the Brightype System is used for platemaking purposes, (see separate article on page 52 this issue).

Three Color Process Printing

John Colwell discussed *Organized Three Color Process Printing.* He showed many examples of color work produced in the Colwell plant. Colwell stated primary uses of the three color process were for magazine covers, record album covers, travel folders, Christmas cards and catalog sheets in color.

During the question and answer period he stated color transparency sizes range from 35 mm. up to 5 in. by 7 in.

His firm is now in position to sell negative separations to printers. The business has expanded so that the firm now maintains four camera rooms and six developing rooms, with two film processing rooms. A 17 in. by 22 in. Harris production press is used for proofing.

He stated that the quality of the printed job is entirely dependent on the quality of the transparency.

When queried by someone in the audience he said the dividing line between doing three color and four color work in their experience is to try to sell three color *pleasing* color. If one is uncertain about the reproduction, then the job is done by four color process with the added black plate. He also stated that it is desirable to set up your own studio where the photography can be controlled to secure pleasing color.

3M Dampening System

A. J. Huber described the new 3M Dampening System for use on offset presses. This is a two part system—the dampening sleeve and the dampening roller. The sleeve is a rigid preformed tube constructed of three plies of a special composition material. The dampening roller is contractible through the use of any vacuum source which will provide 18 to 25 in. of vacuum. At one end of the roller placed axially is a series of holes which run the length of the rubber surface. One end of the rubber surface is sealed with a rubber gasket. At the other end of the roller the holes remain exposed.

A vacuum cup machined from aluminum to closely fit the particular shaft end and bearing surface involved is placed over the shaft end and covers the exposed holes. Vacuum is then pulled through the cup and in this manner air is evacuated from the holes which causes the roller to contact sufficiently to permit easy removal and/or application of the dampening sleeve. When the vacuum is released, air rushing back into the holes causes the roller to expand to its natural diameter and the dampening sleeve is securely bonded to the roller.

This technique permits a change

of the largest sleeve in less than 5 min.

Huber explained that the 3M Dampening System is in use now on 10 in. duplicator presses up to 76 in. offset presses. He said there is absolutely no lint in the 3M sleeve. This virtually eliminates hickies.

So far as the 3M Dampening System is concerned when making an extreme color change, such as from black to yellow, it is only necessary to wipe the sleeve with any fast evaporating, non-oily solvent such as blanket wash and wiping with a dry wiper in the manner used to clean a blanket. The 3M sleeve is designed to accept approx. 35% moisture and meter out the water uniformly. The sleeve material is formulated to resist excessive water or flooding. When the press is shut down for any reason, the sleeve material will retain its moisture with a water reservoir effect for about 1 hr.

Carlson Photocomposing Spacer

Chesley F. Carlson discussed the Carlson Photocomposing Spacer. This is a precision instrument with, he said, hairline precision for composing plates, negatives and Autopositives. The instrument consists principally of a base table 30½ in. wide by 32½ in. long; total height including punch lever is 6½ in., weight is 50 lbs., punch diameter is 0.250 in., min. step position is ½ in., max. step using micrometer is 25 in., register pin diam. is 0.250 in.

Carlson asserted the photocomposing spacer cuts actual register time from hand step and repeat at least 75%.

The table is equipped with a spacer bar to which is fitted a micrometer, micrometer adaptor and punch housing. On the left side of the table is positioned the locating pin bar with a sliding locating pin device. The fixed locating pin is at the left of the working edge of the table.

On step and repeat work, spacings to 0.001 in. accuracy are obtained.

For stepping multiple negatives on film all work is done in full daylight prior to actual stepping in the dark room.

In place of the actual goldenrod paper, the Carlson Vinyl mask is employed. The mask holds register.

Small Offset Equipment

John C. Jackson at the beginning of his address, stated he would confine his address to what the small offset press can be made to do for the commercial printer in the matter of profits. For this purpose, he stated: "We should consider the 10 in. by 15 in. and the 14 in. by 20 in. offset presses." He asserted the small offset press has come of age.

In particular, the 10 in. by 15 in. offset press is supplied with many new mechanical features — better control of paper handling, better inking and dampening, double side guides, tumbler grippers, adjustable head stops, removable inking mechanism assemblies.

"There are," he said, "more 10 in. by 15 in. offset presses and duplicators running in this country today than any other single size. A goodly portion are in captive shops, private plants where it has been found expedient to make these installations."

The speaker continued: "Generally speaking, any 8½ in. by 11 in. job, single color, one side, can be run most profitably on a 10 in. by 15 in. offset press, in runs up to 7500." He said he was talking about 1000 letterheads and envelopes, the small bulletins, price sheets, house organs, instruction sheets in the numerous small sizes in runs of less than 5000.

"In talking hour costs for a press," he asserted, "we must remember to apply these rates to the changeover and makeready as well as the actual running." One Graphic Arts organization shows these hour cost figures for the 10 in. by 15 in., the 14 in. by 20 in. and the 17 in. by 22 in. offset presses, respectively, as follows:

For the 10 in. by 15 in. ...	$5.83
For the 14 in. by 20 in. ...	7.77
For the 17 in. by 22 in. ...	8.24

He added that these figures provide for possession, depreciation, rent, heat, light, power, direct and indirect labor, welfare benefits, etc.

He continued: "With modern press improvements, the 10 in. by 15 in. press offers an opportunity to become acquainted with offset. Actually, the press, camera and platemaking equipment come to somewhere around $5630, broken down as follows:

10 in. by 15 in. press	$3450
12 in. by 18 in. camera with contact screen	1500
Vacuum frame and arc lamp	260
Layout table	185
Stainless steel sink	235

"Add a darkroom and the total investment is around $6500. Hour costs are geared directly to possession costs and profits hang on hour costs."

Consult the Binder and Mailer Prior to Production of That Job

THE Bindery Clinic at the Detroit convention of the Intl. Craftsmen's Assoc. investigated latest die cutting and binding techniques. Serving as chairman of the meeting was Intl. Treas. Mark H. Carothers. He was assisted by Kenneth Bancroft, Detroit Die Cutting Co., as moderator.

All three speakers on the program stressed the importance of consulting the binder and the mailer when planning the job and before the job has been printed. If the binder is called in to collaborate, in many instances he can save money for the customer. Likewise, because he is thoroughly familiar with the field, the mailer can save the customer considerable expense by eliminating waste mailing distribution.

The first speaker, Kenneth Bancroft, discussed *Die Cutting Problems.*

Through an impressive series of display boards, the speaker discribed the many types and kinds of die cut products generally used in industry. Among these were flap, pocket and file folder; pocket folders, slide rule folders, dial cards, die cut folders, specialty displays, corrugated displays, point-of-purchase displays and the like.

Bancroft explained that actually die cutting is a systematic way of trimming paper, board, cloth,

leather, styrofoam, corrugated and many other hard and soft materials into the desired shape designed to catch the consumer's eye.

Demonstrated were a number of steps required for making a die.

The open cutter and creaser is the most common type of die-cutting press. It is a platen press ruggedly built and looks and acts just like a job press with all the inking gadgets removed. Due to shortness of runs, these presses are fed by hand. Open cutters and creasers come in a wide range of sizes from 14 in. by 22 in. up to 38 in. by 54 in.

Die cutting is also done in a large part, on long run jobs, on cylinder presses.

Feeding Thick Stock

Heavy jobs of thick material are fed into under-fed cylinder presses, that is, where the material is fed through the bottom of the press, in cases where the thickness of the stock is so great that it will not bend around the impression cylinder.

Whenever possible, said the speaker in referring to point of purchase displays, these displays should be packed in individual cartons or folders. This precautionary measure was advised because during shipment and handling the displays are pushed around and often become too damaged to remain useable

To eliminate the majority of problems in the die cutting operation we must bear these items in mind: Consultation on layout among printer, binder, and finisher, proper bleeds, placement of guides, etc., dummies if needed for layouts and running positions, proper packing and distribution of material.

Loose Leaf Binding Mechanisms

Originally, John C. Burkhardt, vice president, Burkhardt Company, Inc., Detroit, was scheduled to deliver the address on *Loose Leaf Binding Mechanisms*. Because of inability to be present, his brother, Ed. Burkhardt, delivered the previously prepared address.

There are many types and kinds of bindings, each suited for its special purpose. Discussed were permanent, loose leaf, cut-flush, casebound and loose leaf mechanisms.

In the permanent binding class are

Attending the Recent Craftsmen Convention

(All names read from left to right)

1—Buffalo (N. Y.) Craftsmen in attendance were: Jos. Klausman, superintendent, Greater Buffalo Press; Glenn E. Begert, plant superintendent, Pollack Printing Co.; Wm. Hodgson, president, Buffalo Printers Supply Co.; Robt. Zeiss, president, Geo. Zeis Printing Co., and Art Wakefield, McCutcheon Bros. & Quality, Inc.

2—James McCann, Heidelberg Automatic Presses, New York, N. Y.; Ted Thomas, Speaker Hines & Thomas, Inc., Lansing, Mich., Arthur O. Koeft, Tri-Art Press, Inc., Indianapolis, Ind., and Edward A. Merkel, Heidelberg Eastern, Inc., Chicago.

3—Jerome Anderson, Kable Printing Co., Mt. Morris, Ill.; Whitey Radziewicz, Service Offset, Chicago; Frank Swanberg, Spiegel, Inc., Chicago, and Gordon Wilson, Oxy-Dry Sprayer Corp., Chicago.

4—Members from the Pittsburgh Club included: Don Gothe, Sam'l Bingham's Son Mfg. Co.; Ray Ferraro, Community Press; Bob M. Edgar, Neyhart Printing Co., and Ehrlich Eiland, Alcoa Research Laboratories.

stitched on or glued backs. Saddle-stitched catalogs are usually 80 pages or less, depending upon thickness of paper used. Side-stitching is employed where the books are too thick for saddle-stitching. One disadvantage of side-stitching is that the finished book has a tendency to close unless held open. Another disadvantage is the reduced printing area, due to the added space needed for the gutter margin. Sewing a catalog overcomes the objectionable feature of side-stitching but at greater expense. Glued back bindings can be used for books 3/16 in. or thicker and this category falls between side-stitching and full fledged sewing from a cost standpoint. In glued back bindings, due to the nature of the backbone, the books will open and lie flat, such as telephone directories, with approx. the same strength as the sewed book.

Mechanical bindings embrace all types of wire and plastic permanent bindings. These bindings offer the advantage of permanently binding together from as little as four sheets up to several hundred. The chief disadvantage of mechanical bindings for catalog use is their permanence. While some binderies have attempted to overcome this by slotting holes in the punched sheets for insertion of changes and additions, the practice is not recommended.

Loose Leaf Bindings

Under this category Burkhardt stated there are literally hundreds of mechanical devices for holding the printed sheets and providing means for adding to or changing contents.

In considering these loose leaf bindings, the customer and the printer should determine whether or not the catalog is to be permanently bound or placed in a loose leaf cover.

In the case of reprinting a larger and more frequently revised catalog where the sheets are subject to frequent changes, the distribution of supplemental sheets or sections can be resorted to, but this contains the hazard of their loss or non-use with consequent waste and irritation by both the buyer and seller.

The advantage of the loose leaf binder is that it can be kept up-to-date at all times; changes can be made to cover new products; loose leaf catalogs are economical since the life of the loose leaf cover can be measured in years.

The main points to watch in making it easy for the buyer to keep your catalog up-to-date is to buy a loose leaf device that works easily; don't wait for six months to a year to accumulate changes and then reprint from a fourth to one-half the catalog.

Craftsmen in the Motor City

(All names read from left to right)

1—Jack Hignell, secretary-treasurer, Hignell Printing Ltd., Winnipeg, Can.; George Nelson, production department, McGill Warner Co., St. Paul, Minn.; Robert Truhlar, production manager, Colwell Press, Inc., Minneapolis, Minn.

2—Daniel A. Pannock, Ethyl Corporation, Detroit; unidentified; Alex Morrison, Morrison Specialty, Detroit, and Marshall Thomas, City Electrotype Co., Detroit.

3—Bruno Woernle, Linotype Composition Co., Baltimore, Md.; Henry Schneider, Charles Francis Press, New York, N. Y., and Joseph Green, Mack Printing Co., Easton, Pa.

4—Russ Smith, foreman printing department, Standard Accident Insurance Co., Detroit; John W. Woodward, superintendent and traffic manager, Seaman Patrick Paper Co., Detroit.

Cover Styles

The speaker reviewed the various types of covers and explained their useful qualities.

Cut-Flush Covers—All binders referred to as Cut-Flush are those covers made from a single piece of material. The stock may be 10 pts. thick, or as heavy as 50 pts. thick, of leathercloth, a genuine leather or some artificial fiber.

Casebound Covers—These covers are made with outside binding of paper, cloth, leathercloth supported vinyl, leather, or paper backed with mylar glued to a board core, with the outside material turned over the edges. The inside of the cover is lined with a thin lining material of paper, cloth or leather.

Loose Leaf Mechanisms

Simplex Covers—These consist of a two-piece cover, usually made of cut-flush materials with holes punched through both covers. Sheets are held with laces or screw posts. Capacity is limited only by the post length.

Five, Six and Seven-Score, Accordian Type Covers—The only difference between a five, six and seven-score cover, explained the speaker, is that a five-score will take about ¼ in. of sheets; a six-score cover has a fixed capacity, and a seven-score binder has an expanding capacity.

While, with this type of cover, the buyer has a wide range of material and decorative methods from which to make a selection, the disadvantage is the same as the Simplex binder as the contents will not lie flat when the binder is open for reference. This mechanism is awkward for sheet changing.

Memo Ring Binders—The principal recommendation for this type of cover is that the sheets lie flat when the book is open. Rings range in size from ¼ in. diam. up and can be supplied with two or more rings, with and without triggers. Objections to this particular cover would be a backbone wider than the front edge when the mechanism is filled; sheets tear out

What's your strapping problem? Size? Quantity? Tension? Try the USS Gerrard Model 12

Do you want to strap *small* packages—8″ x 2″? Or are they closer to 26″ x 20″? The economical new USS Gerrard Model 12 Automatic Strapping Machine can handle *either* size—or any size in between.

How *many* packages do you want to strap? Twenty-four? The Gerrard Model 12 can tie all twenty-four in just *one minute.* That means 1,444 packages tied in an hour!

How *tight* do you want them? With the Model 12, tension can be predetermined and uniformly maintained on all packages, regardless of size or weight. A special device compresses and holds them in position during the tying operation.

The Gerrard Model 12 comes in two sizes, and utilizes extra-strong USS Gerrard High-Tensile Round Steel Strapping, 14 through 18½ gauge. The machine requires only 7½ square feet of floor space. Table height is 31″; weight is approximately 1350 pounds. It can be threaded in less than a minute—and it's a cinch to operate. You don't even have to adjust it for packages that vary in size and shape. Maintenance is no problem, either, because the Model 12 has a one-shot built-in lubrication system.

If you want more information, contact your USS Gerrard sales representative. Also send in the coupon below for the folder and the Gerrard Blue Book of Packaging. There is no obligation.

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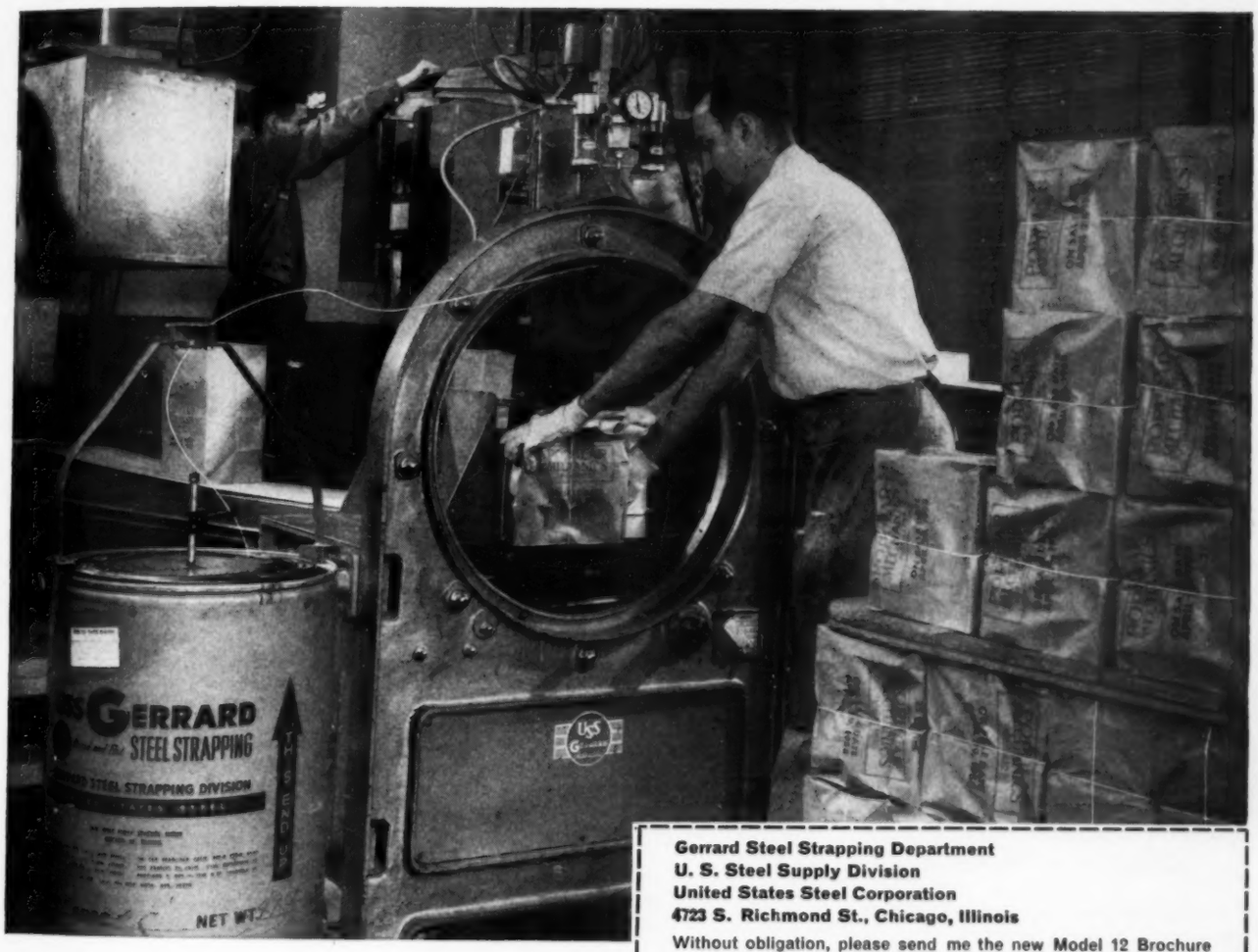
The USS Gerrard Model 12 Automatic Strapping Machine in use at *Popular Mechanics* Magazine, Chicago, Illinois



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Have Salesman call ☐

For More Information Circle 70 on Reader Service Card

too easily; sheets hang on the rings when the cover is closed, and the necessity of removing extra sheets to make new insertions after the binder has reached the two-thirds full point.

Slip Covers—This is not a mechanism. It is mostly used for the saddle-stitched type of book. It is frequently employed in conjunction with mechanically bound catalogs where the buyer wants a more durable cover and an adequate backbone identification.

Angle Back Binders—This mechanism is of the post type and of heavy-duty construction to withstand hard usage. The binders are formed with conventional board core sides, with a steel angle back in both the front and back cover. These are joined by telescoping posts and a quick locking device for easier operation.

Ring Binders—These are suitable for bulky catalogs in either Cut-Flush or Casebound construction up to 2½ in. rings. They withstand unusually rough handling if metal hinges, fiber sides or metal rims are available.

Parallel or Spring Prong Binders—This mechanism is ideally suited to the requirements of the catalog user who demands the rugged qualities of a post binder with the advantages of the ring binder. Recommended to all buyers interested in a heavy-duty loose leaf device for bulky catalogs. Capacities range up to 3 in.

Publication Binders—This mechanism is employed by the user who wishes to assemble a series of catalog sections into one cover without punching. The binding of these sections or catalogs is usually saddle-stitched or may consist of one of the mechanical styles. Sections are held in place by rods or wires passing through the center of the saddle-stitched books.

Also Consult the Mailer

The last speaker was George (Red) Waters, vice president, American Mailers, Detroit. Speaking briefly, Waters discussed increased direct mail costs as well as avoiding waste circulation. Waters feels that in the mailing field there is one thing wrong—there is no previous collaboration on the part of the customer, the printer and the mailer. The job is brought to the mailer after it has been printed.

The field in which the mailing is to be distributed should be analyzed. For instance, in the case of a department store, the store will send out 50,000 pieces when 30,000 would cover the field. The mailer keeps his lists up-to-date.

Printing Scholarships Awarded

Nine four-year and eight summer school scholarships have been granted by the National Scholarship Trust Fund of the Education Council of the Graphic Arts Industry, it was announced by Francis N. Ehrenberg (Blanchard Press, New York, N. Y.), chairman of the Scholarship Selection and Awards Committee of the Fund. The four-year scholarships have been awarded as follows:

Robert H. Caffee Memorial Scholarship—(William G. Johnston Co., Pittsburgh, Pa.) $1000 per year for four years to Ronald Wertel, 332 McKinley Ave., Pittsburgh, Pa., at Carnegie Institute of Technology.

Graphic Arts Monthly Scholarship—(*Graphic Arts Monthly*, Chicago) $1000 per year for four years to Charles Branch, 911 South C. St., Arkansas City, Kan., at Rochester Institute of Technology.

Judd and Detweiler, Inc., Scholarship—(Judd and Detweiller, Inc., Washington, D. C.) $500 per year for four years to Enn Epner, 325 Alplaus Ave., Alplaus, N. Y., at Carnegie Institute of Technology.

Harris-Intertype Scholarship — (Harris - Intertype Corporation), $1000 per year for four years to John Weyer, 57-34 81st St., Elmhurst, N. Y., at Carnegie Tech.

Heathcote Mann Scholarship of the Kable Foundation — (Kable Printing Co., Mt. Morris, Ill.) $1000 per year for four years to Alan Kanegsberg, 101 Westville Ave., Caldwell, N. J., at Carnegie Tech.

Vandercook and Sons, Inc., Scholarship — (Vandercook and Sons, Inc., Chicago), $500 per year for four years to Walter Haan, 278 S. Wellington Rd., Garden City, N. Y., at Rochester Institute of Technology.

Miehle Printing Press and Mfg. Co. Scholarship—(Miehle Printing Press and Mfg. Co., Chicago) $1000 per year for four years to Robert W. McCaffrey, 59 Pearl St., Cambridge, Mass., at Rochester Institute.

John M. Wolff Graphic Arts Teacher Scholarships — (John M. Wolff, St. Louis, Mo.) $500 per year for four years to Jerome H. McClure, 603 No. Joplin, Pittsburg, Kan. at Kansas State Teachers College, Pittsburg, Kan. and $500 per year for four years to Roy L. Garland, 3280 Rochambeau Ave., Bronx 67, New York, N. Y., at New York State University for Teachers, Oswego, N. Y.

Five 500 Dollar Scholarships and a number of 250 dollar scholarships will be granted to deserving applicants by Southwest School of Printing, Div. Sam Houston State Teachers College, Huntsville, Tex. Administering tests to scholarship aspirants is Dr. Clifford Williams, Shepherd Associates, Fort Worth, Tex.

New Classification for Education Council Members

The Education Council of the Graphic Arts Industry, Inc. has approved a new member classification called Contributing Members. According to Samuel M. Burt, managing director of the organization, the reason for the new classification is to permit members to join who previously found it difficult to do so under the minimum of $100 per year dues.

Contributing Member dues are $25 per year and entitle members under this classification to all services of the Council. Council publications will be provided at 10% discount from list price.

Further information may be obtained by writing Samuel M. Burt, managing director, Education Council of the Graphic Arts Industry, Inc., 5728 Connecticut Ave., N.W., Washington 15, D. C.

EQUIPMENT & SUPPLIES

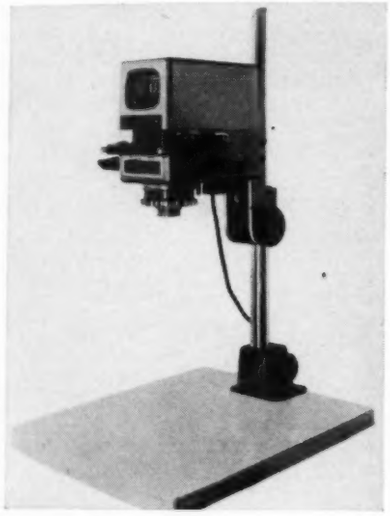
If you wish additional information concerning equipment, supplies, and/or technical literature, please make your request on *Printing Production's* Reader Service Card to be found in this issue.

Dispenser Mounting Plates

Special mounting plates now are available for attaching dispensers for Kimberly-Clark Kimwipes disposable wipers to walls. Packages containing four plates and the necessary solvent and fasteners for each dispenser are available from distributors. The solvent is used to affix the plates permanently to ceramic, concrete and plastered surfaces. The dispensers are bolted to the plates. Circle No. 282 on Reader Service Card.

Two New Durst Enlargers

Durst USA, Inc. has annouced the addition of two new models to its line of photo enlargers available in the United States. The Durst 606 enlarger (pictured) handles all film sizes up to 2½ in. by 2½ in. An optical reflex screen is built into its lamphouse for viewing and focusing during its use as a copy and reducing camera. Other features include a filter



drawer between condensers; calibrated 90 deg. swivel lamphouse; interchangeable lensboards; adjustable negative carrier, and double condenser system. The Durst 404 enlarger can be used to handle all miniature film sizes up to 4 c.m. by 4 c.m. Included in features are lamp socket accommodating standard opal enlarging lamps or standard projection lamps; filter drawer between condensers; reversible film cups; 90 deg. swivel lamphouse; 10 times magnification on baseboard, and friction drive height adjustment. Circle No. 267 on Reader Service Card.

Opti-Chek Mounter and Proofer

A mounter and proofer designed for preregistration and proofing of rubber plates has been announced by Harley Company. Called the Model R-P Opti-Chek, it is equipped with an optical unit for superimposing images. By looking through a viewer, operator sees image of key plate superimposed over image of plate to be registered. System is claimed to enable operator to determine exact registration, amount of bleed and whether stretch or

shrinkage has taken place. Registering design to design is said to eliminate use of tools or rules.

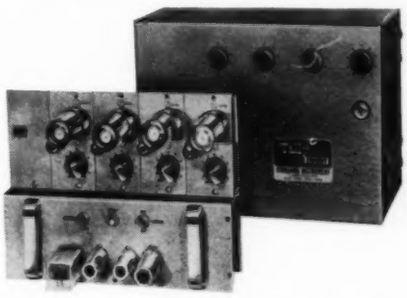
Machine is constructed with heavy side frames and precision construction, and is said to be completely adjustable to handle any length and any diameter cylinder. Mounter is equipped with impression cylinder for multi-color proofing. Motorized cylinder is activated by a foot switch, permitting free use of hands. Circle No. 277 on Reader Service Card.

Gum Arabic Solution

Varn's new gum arabic solution features low viscosity, ease of washoff, and a uniform, thin flexible coat, reports Varn Products Co., Inc. It is said the viscosity has been lowered to produce a gum solution for modern plates. Solution is offered in test and production quantities. Circle No. 256 on Reader Service Card.

Predetermining Electronic Counter

Tally-Count, a predetermining electronic counter which can be used to control machine cycling, sorting, materials handling, packaging and unit flow at high



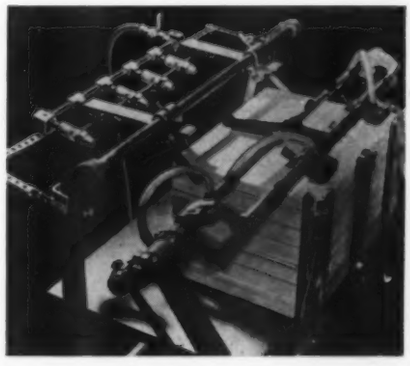
speeds, has been annouced by Standard Instrument Corp. Unit can be operated at rated speeds up to 100 per sec. Individual plug-in decades are said to simplify maintenance and enable counter to be expanded from a two decade to a three or four decade counter with no wiring change. Power supply is also a plug-in unit. Tally-Count may be actuated by relay, photo electric control, micro-switch or toggle switch. Counting capacity of a four decade unit, used as a predetermining counter, is 10,000. As a totalizing counter, with four decades and four digit mechanical register, counting capacity is one million. Circle No. 254 on Reader Service Card.

Leedal Cold Top Tank

A cold top tank to be used for processing magnesium plates of the Dow rapid etch process has been developed by Leedal, Incorporated. Tank is furnished with hinged cover to prevent evaporation of solutions when not in use. This is said to keep solutions at constant strengths, ready for processing. A plastic Lucite dipper is provided for handling of various size plates. It is said to be designed so that even warped plates will not touch sides of tank and cause harmful action. Supports inside of tank keep plates off bottom where sludge may accumulate. Tank is available in sizes for 20 in. by 24 in. plates or smaller, and 22 in. by 28 in. Circle No. 257 on Reader Service Card.

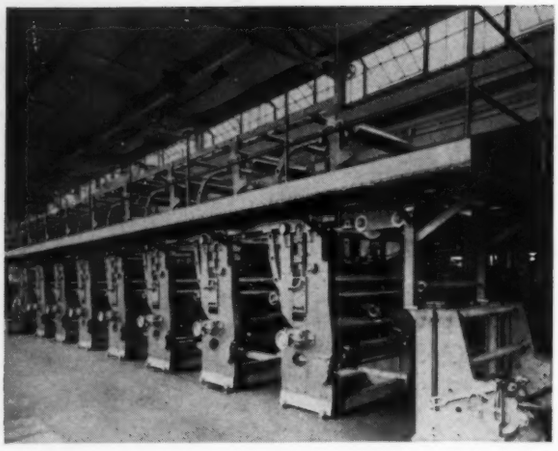
Simco Static Eliminator

A method for separating and neutralizing sheets on feed piles of printing presses and other sheet-fed machines to prevent feeding more than one sheet at a time has been announced by Simco Company. The equipment consists of Simco ionizing air nozzles with static eliminators built into the tip of each nozzle, and are mounted on an air header fitted with stopcock. Air can be supplied from the



press or other source and pressure used is from 15 p.s.i. to 50 p.s.i. A solenoid airvalve, to turn the air on and off automatically, is optional.

The air nozzle assembly is mounted behind and slightly above the feed pile with the nozzles aimed at the back top edge of the pile. It is claimed ionized air from the nozzles flutters the top few sheets and neutralizes static charges as the sheets are separated. According to Simco, the nozzles can be used for paper, coated paper, or plastic sheets, and are available in different shapes and sizes for different type of presses. The equipment can also be used for cleaning off dirt and lint. Circle No. 261 on Reader Service Card.



Gravure Filmprinter Press announced by Kidder Press Co., Inc., for printing on all film stock. It can be used for color process work. Press supplements Kidder's Flexographic Filmprinters. Circle No. 281 on Reader Service Card.

New Anchor Line Aerosol Packed

A new line of aerosol packed products for Graphic Arts has been introduced by Anchor Chemical Co., Inc. Included in the line are Inkote, ink skinning preventive; Velvee, rubber rejuvenator; Film-Kleen, non-toxic film and glass cleaner; Robinol, degreasing agent for metal, film and glass; Sans Aqua, waterless hand cleaner; and Ex-Static, static eliminator. Products are available for both letterpress and offset plants. Circle No. 285 on Reader Service Card.

Intertype Single Duty Quadder

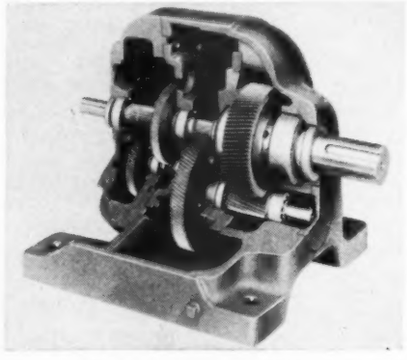
Intertype Company, Div. Harris-Intertype Corp., has announced its manually operated Single Duty quadder. A control provides for quadding left, center, right, and normal justification. Lines beyond justification limit are automatically quadded flush left. Quadder action is automatically repeated.

One measure control is said to simultaneously set vise jaws, assembler slide and saw. Coaxial dials permit measures up to 30 picas to be set in picas and

points. Vise jaw pressure is claimed to be completely relieved between first and second justification actions, and jaws are said to be self-aligning. Quadder can be converted to a Dual Duty quadder if tape operation becomes a requirement. Circle No. 279 on Reader Service Card.

Helical Gear Drives

Link-Belt Company has introduced a quadruple reduction helical gear drive and has added larger sizes to its line of double and triple reduction helical drives. Gear drives with capacities to more than 200 h.p. are available, reports the company. The quadruple reduction speed reducer, offered in five sizes, extends the range of ratios to 2217:1. It is said gear arrangement of reducers consists of helical



gear trains operating in high capacity ball and roller bearings mounted in a cast iron housing. According to Link-Belt, space requirements and layout problems are minimized by locating input and output shafts in the same horizontal and vertical planes. Automatic splash lubrication of moving parts is claimed to assure dependable lubrication and operation at all speeds. Circle No. 266 on Reader Service Card.

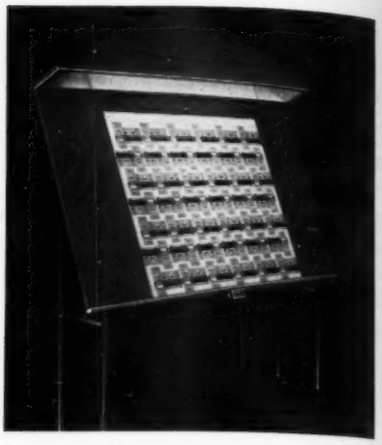
Bookbinding Adhesive

Adhesive Products Corp. has announced development of a bookbinding adhesive known as Perfex. It is a cold bonding water base adhesive said to have quick grab. It is claimed a strong bond is obtained within 5 sec. after it is applied. According to Adhesive Products, Perfex does not have to be heated, is permanently flexible, and does not become brittle or crack with age. Circle No. 270 on Reader Service Card.

Sheet Inspection Table

An angular inspection table for checking impression, color and paper surfaces is being manufactured by Winton Engineering Co. The Winton Board and Sheet Scanner operates on the principle that a brilliant point source of light throwing rays parallel to a sheet surface will cause minute surface protrusions to cast elongated shadows and thus become visible.

Scanning board, which is 48 in. high and 72 in. wide, tilts back 23 deg. from

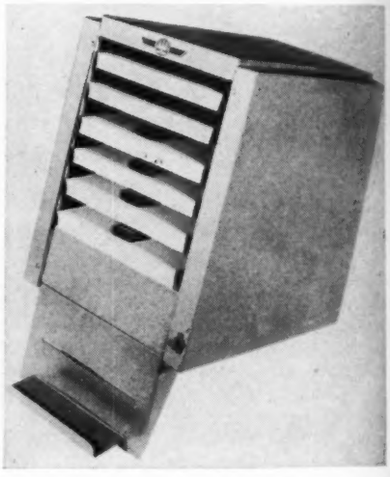


the vertical to permit top as well as bottom of sheet to be inspected. Spring clamps near top of scanner permit hanging of overlay sheets and other paper, while a steel shelf on bottom is designed to hold boxboard sheets. Movement of unit is facilitated by rubber casters. Circle No. 271 on Reader Service Card.

Desk Top Collator

An electric, six sheet desk top collator has been introduced by Thomas Collators, Inc. Collator is said to gather 120 sheets or 20 sets of six sheets each per min. Each bin is designed to hold a 1¼ in. pile of 8½ in. by 11 in. paper. Machine is claimed to collate most tissue, onionskin, carbon, bond, mimeo and ⅛ in. cardboard.

Collator is made of steel with silver



hammeroid finish, weighs 35 lbs. and measures 12 in. wide, 15 in. deep, and 15 in. high. Feed arms, with burred feed rollers, are driven by a single phase, 60 cy. 110-120 v. a.c. motor. Circle No. 251 on Reader Service Card.

Colored Gum Label Papers

A line of 35 colored Really Flat gummed papers is being manufactured by Mid-States Gummed Paper Div., Minnesota Mining and Mfg. Co. Stocks are said to

be designed primarily for holiday season use.

Included in the line are machine finished, coated, plated, Friction Glazed, Imperials, Day-Glo and Boncraft grades in basis weights ranging from 45 lb. m.f. mediums to 120 lb. Day-Glo. Circle No. 276 on Reader Service Card.

Improved Du Pont Rotofilm

An improved Du Pont Rotofilm, a presensitized photographic etching resist for use in gravure printing, has been released to the regular Photo Products Department sales force after two years of developmental work under the guidance of a special team, Harlan L. Graham, director of sales, has announced.

Chief improvement, Du Pont says, is a change which permits significantly easier, better removal of the film's protective membrane after laydown and a resulting high quality in the etching of gravure cylinders. Circle No. 280 on Reader Service Card.

Industrial Plastic Gloves

Plastic gloves which can be reused and are inexpensive enough to be disposable have been reported by Plasticsmith, Inc. The gloves, available in large, medium, and small sizes, are packaged in rolls of

12 to 1000. Known as Handgards, gloves are made of polyethylene material, heat sealed by a machine which is said to insure a waterproof product. They are pretalcumed for ease in sliding on and off. Plasticsmith reports they do not impair the sense of touch and are resistant to acids, dyes, solvents, and most chemicals. Handgards are flared at the wrist for ventilation. When hands need to be immersed gloves can be sealed with a rubber band. Circle No. 269 on Reader Service Card.

12 New Type Disks for ATF Typesetter

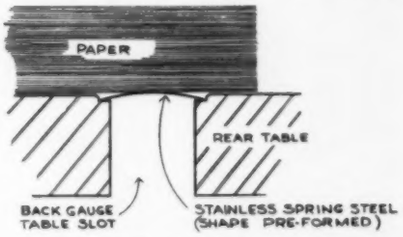
Twelve new type disks, each consisting of two fonts of type in one type size, are available for use on the ATF typesetter, it was reported by American Type Founders Co., Inc. The type disk, which contains 168 type characters with one and three unit blank spaces, is hand size and can be quickly inserted or removed from the photographic unit, states ATF. The 12 disks are: News Roman No. 1 with News Bold No. 1, 7 pt., 8 pt., and 10 pt. sizes; News Roman No. 1 with News Italic No. 1, 7 pt., 8 pt., and 10 pt. sizes; News Roman No. 2 with Gothic Heavy No. 2, 5 pt.; News Roman No. 3 with News Bold No. 3, 8 pt.; Oldstyle No. 1 with Oldstyle Bold No. 1, 8 pt. and 10 pt. sizes; Gothic Condensed with Gothic Heavy Condensed, 10 pt., and Gothic Book No. 1 with Gothic Heavy No. 1, 10 pt. Circle No. 252 on Reader Service Card.

Temperature Controlled Sink — Leedal, Incorporated has announced a temperature controlled sink which is said to assure good processing of color and black and white negatives and positives. Water is heated or cooled automatically as necessary and recirculated through the sinkpan. Temperature tolerance of ± ½ deg. is maintained. All models are equipped with a water cooled compressor. Chemicals can be dumped directly into dump trough

which has its own drain so that recirculating water is not contaminated. Sink bottom is dimpled to enable tempered water to flow underneath the trays. Pan is insulated on four sides and bottom with fiber-glass. Circle No. 258 on Reader Service Card.

Lawson Cutter Equipped With Slot Closing Device

Lawson Company, Div. Miehle-Goss-Dexter, Inc. reports that its Pacemaker cutters are equipped with a device said to automatically close the rear table slot in which the back gauge rides, to prevent paper from snagging when the machine is being loaded or the paper is being swung. Device consists of a continuous convex shaped strip of stainless spring steel attached at both ends to the back gauge and threaded over two fixed pulleys. It rides in a shallow groove cut into sides of the rear table slot, and keeps it completely closed, states Lawson. As shown in diagram, the smooth, rounded surface of the steel strip supports the lift of

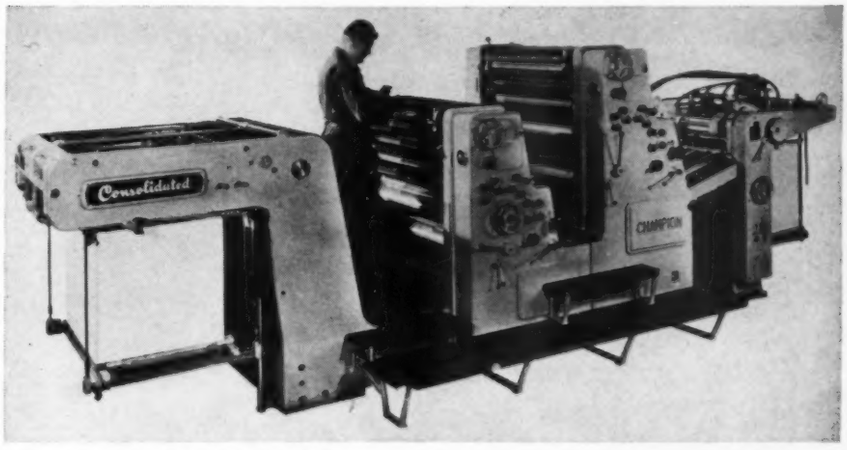


paper across the slot. It is claimed paper cannot snag when swinging the lift or during loading operations. Circle No. 255 on Reader Service Card.

Chemical and Ink Dispenser

Plews' No. 55 dispensing gun, designed for applying chemicals and inks to offset plates, has been introduced by Plews Oiler, Inc. Pump, which is actuated by a natural grip trigger, draws liquid from bottom of container to prevent drying and hardening of contents at bottom.

Gun is equipped with a strong return



Consolidated Offset Press—The Champion 39 two color offset press, which will handle a sheet 26¾ in. by 38½ in. size, was recently announced by Consolidated International Equipment & Supply Co. Press is equipped with automatic high pile feeder with single lever control, electric drive and magnetic braking system, four form rollers, and 26 inking rollers. Micrometer gauges are said to assure register. Press will print at rated speeds of 7500 sheets per hr. The Champion 39 will be shown in the United States for the first time at the National Assoc. of Photo-Lithographers Convention, Boston, Sept. 10-13. Circle No. 268 on Reader Service Card.

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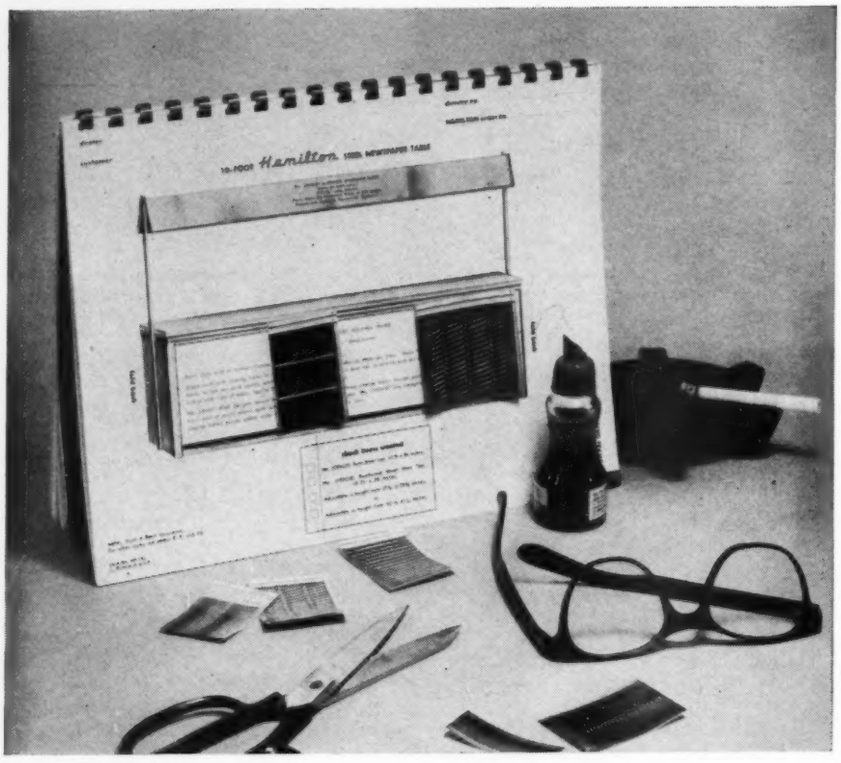

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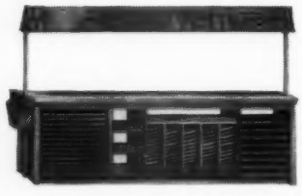

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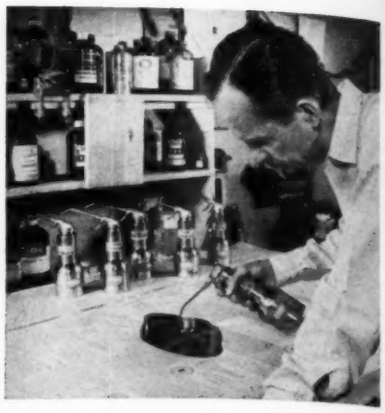


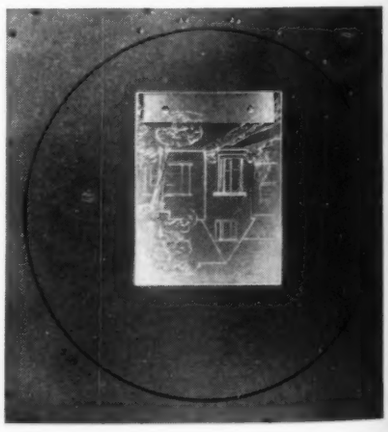
spring and bronze ball valves. Body is of one piece drawn steel said to eliminate leakage if accidentally dropped. Spout is of welded steel, claimed not to break or leak. Circle No. 274 on Reader Service Card.

Paper Thickness Gauge

A paper thickness caliper gauge with die cast aluminum frame, shaped to fit the hand, has been introduced by Carbon Products Co., Inc. Gauge is light weight, equipped with glass covered dial and a trigger-operated indicating hand. Circle No. 275 on Reader Service Card.

Gelb Vacuum Table

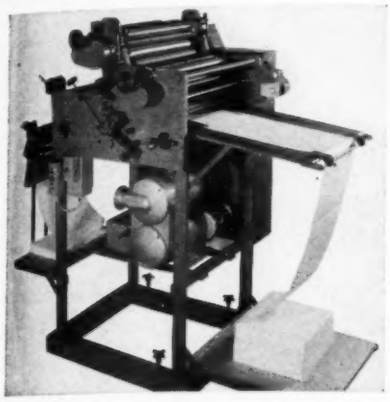
Jos. Gelb Company has introduced its Model GVT vacuum table which can be used with a vertical projection camera, or alone as a contact table. Cover plate furnished is a clear transparent plastic, incorporating matting pin holes. When using a contact screen, similar holes can be punched into the contact screen. Four sets of set screen angle pins are mounted on the table to enable accurate screen



angle positioning. A matrix punch and matrix pin bar are furnished. The area inside the vacuum channel is etched. Model GVT for 26 in. screens comes complete with vacuum pump and motor, for 110 v., a.c. operation, and hose. Circle No. 262 on Reader Service Card.

Offset Forms Imprinter

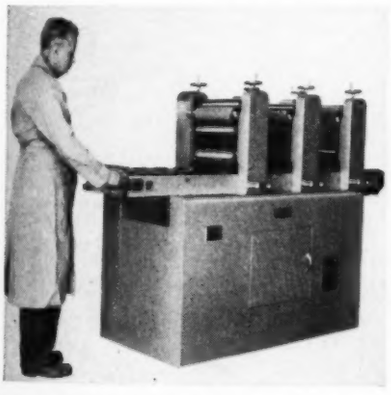
An offset imprinting press designed to handle snap-out and continuous business forms has been developed by Schriber Machinery Co. Press is said to feed marginally punched forms, up to 18 in. wide, from flat packs, at speeds up to 10,000



to 12,000 i.p.h. Machine is equipped with an 11 in. plate cylinder. However, according to Schriber, other sizes can be made. Other features mentioned are: Two ink form rollers with throwoff; blanket cylinder throwoff; de-clutching mechanism to permit ink and water roller operation without feeding paper, and sideway plate cylinder adjustment. Circle No. 283 on Reader Service Card.

Cosom Flexographic Printer

Cosom Engineering Corp. has announced its flexographic model printer for printing on flat, round, tapered, raised or recessed articles with flexographic inks.



Three levels can be printed with up to three colors simultaneously. It is equipped with special fountains and a circulating ink pumping system from reservoir to fountain. This arrangement continually agitates the ink supply. When printing operation is interrupted for adjustments of platens, a fractional h.p. motor continues to rotate inking and transfer rolls. There are two types of rotary attachments for the printer. An indexing rotary attachment is available for large production

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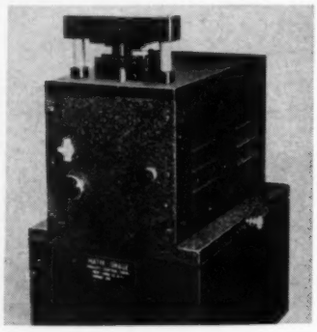
work and a single spindle attachment is available for short runs. Circle No. 259 on Reader Service Card.

Matrix Salvage Machine

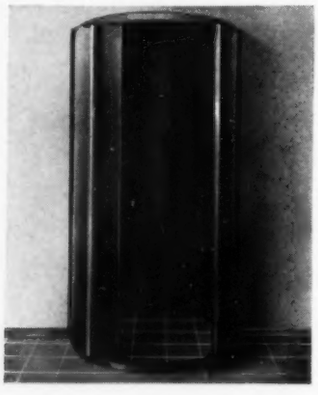
A matrix salvaging machine, called Matri-Swage, has been announced by Quality Control Corp. Machine is said to restore Linotype and Intertype matrices that have worn aligning lugs, to stand-



ard factory size. Worn matrices are fed into machine and lugs are automatically swaged. Machine was developed as a companion unit for manufacturer's Matri-Chek, matrix inspection machine. Circle No. 286 on Reader Service Card.

Revolving Darkroom Door

Consolidated International Equipment & Supply Co. has announced development of a revolving darkroom light-trap door manufactured in models for single or double darkroom use. Operator enters



door and rotates a cylinder-like structure which rolls on ball bearings. Entrance door is then covered by opposite side of the barrel construction, while the open side permits light-tight entrance to darkroom. Unit is of portable design. Circle No. 273 on Reader Service Card.

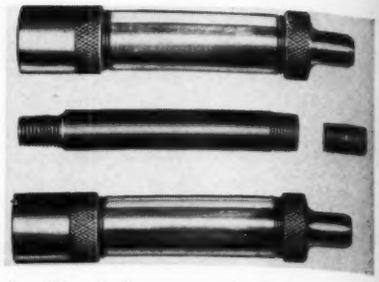
Vandercook Test Press

The Vandercook Universal II test press will take a maximum plate or form 18 in. by 24 in., which is large enough to accept a full size newspaper page plate, reports Vandercook & Sons, Inc. A smaller test press was announced by the company in *Printing Equipment Engineer*, May 1958 issue. It is claimed Universal II is designed to meet the needs of platemakers, typesetters, printers, carton manufacturers, and paper and ink manufacturers. Press is available either as a hand operated or power driven model. It can be furnished with or without an adjustable bed, and an automatic ink feed device is available as optional equipment.

It is said the 3 in. form rollers can be changed in about 20 sec. According to Vandercook, a simpler method has been devised of adjusting the form rollers to proper height without the use of tools by turning knobs. To keep dust from settling on the inking system and to guard ink distributor rollers from accidental contact by the operator, a hinged plastic shield is provided. The inking system has been designed with automatic washup device. A nylon doctor blade is brought into contact with the ink drum by a lever. Ink solvent is applied from two plastic containers to the rollers to wash up the press. Blotting paper placed in the bottom of the tray absorbs the ink and solvent resulting from the automatic washup. An optional feature of the Universal II is the automatic ink feed to eliminate application of ink by hand. Ink feed supplies ink automatically from a standard 1 lb. can. A knob is turned to control the volume of ink being fed to the inking system. Circle No. 263 on Reader Service Card.

Kluge Air Line Filters

An air line filter kit which will fit all older series Kluge automatic presses and Kluge feeders has been announced by Brandtjen & Kluge, Inc. Kit includes two filters, one for the magazine arm and one for the delivery, and all necessary fittings. It is said installation can be easily accomplished. Actual cylindrical filters give over 6¼ sq. in. of filter area, preventing dirt and lint clogging, and also prolonging

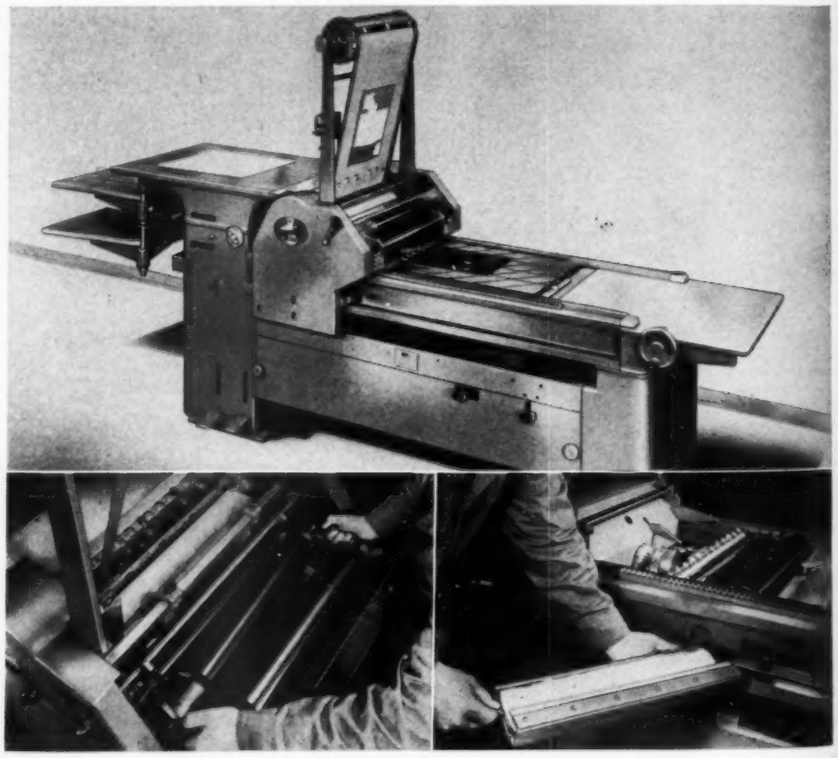


the life of the pump. Each filter is incased in clear plastic tubing, to permit visually checking condition of all filters. Circle No. 264 on Reader Service Card.

Gummed Paper Selector

Mid-States Gummed Paper, Div., Minnesota Mining & Mfg. Co. has introduced a slide rule selector to aid in choosing the right grade of its Really Flat gummed paper for any printing requirement. An ink guide that recommends the proper

ink to use for printing each grade is included. Information regarding jumbo roll widths, stock sheet sizes, basic stock weights, and proper gumming is given. Circle No. 253 on Reader Card.



At top is the new Vandercook Universal II test press equipped with power driven inking system, automatic washup, power driven cylinder, automatic sheet delivery and register plate base. It is said form roller on the test press (bottom, left) can be changed in 20 sec. without tools. Automatic washup (bottom, right) enables operator to wash up press by bringing a nylon doctor blade into contact with ink drum, and apply solvent.

PRINTING INDUSTRY PATENTS

Covering patents issued June 3, 10, 17 and 24.

All new patents for the Graphic Arts are reported exclusively for PRINTING PRODUCTION by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc. presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. PRINTING PRODUCTION is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Composing Room:

PERFORATOR AND COUNTER FOR TABULAR MATTER

A perforated strip for use in automatic control of composing machines is prepared by this apparatus. It has a mechanism which indicates to the operator, prior to punching, the length of the variable portion of a telephone directory listing. It indicates justifiability of a composed line of type matter in the middle of the line. Patent 2,838,114 by Maurus T. Goetz and Ralph H. Halvorsen, assigned to Fairchild Graphic Equipment, Inc.

TYPOGRAPHICAL COMPOSING AND CASTING MACHINES

This attachment has a single control handle by which molds can be simultaneously changed while the type trimming knives are set to correspond with type size of changed mold. Patent 2,839,182 by Robert E. Tackitt, half assigned to Earl L. Whittington.

Platemaking:

ETCHING MACHINE

The machine is designed to support and impart an irregular motion to a printing plate while etching acid is continuously sprayed against the plate. This insures a uniform etch over the entire plate surface. Patent 2,836,917 by Norman C. Schutt, John L. Bjelland, and Floyd W. Flynn, assigned to Powers Chemco, Inc.

LIGHT SENSITIVE MATERIAL FOR DIAZO PRINTING

These new type diazo compounds for coating diazotype materials give steeper gradients when dissolved in organic solvents, due to better absorption into the solvent. They have excellent opacity in the far ultra-violet range and yield excellent intermediate prints. One claimed material consists of the zinc chloride double salt of the diazo compound of N-4'-amino-3'-ethoxy-phenyl-(1')-thiomorpholine coated on a base sheet. Patent 2,840,472 by Oskar Siis, Georg Werner, and Willy Wettlauffer, assigned to Keuffel and Esser Co.

Printing Presses:

INK FOUNTAIN BLADE

Independent, individual adjustment of small lengths of the effective metering edge of an ink fountain blade is effected by using a blade which is transversely slit from the metering edge and the portions adjacent to it into parallel strips or tongues of any desired width, each one adapted to be controlled in its position relative to the ink feeding roll by means of an individual set screw. Patent 2,837,024 by Douglas S. Dougan, assigned to John Waldron Corp.

PROPELLER ROLLERS FOR PRINTING MACHINES

For use with a printing machine folder, a paper propelling roller mounting provides for parallel and cocking adjustment of the roller with relation to a cooperating paper handling cylinder so as to allow for variations in thickness of the folded products. Patent 2,840,376 by Charles A. Harless, assigned to R. Hoe & Co., Inc.

PLATE LOCKUP

This is a simplified plate lockup for use on small or moderate-sized presses. The

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ends of the printing plate are bent and inserted through a gap between the pairs of clamping plates. Undue stress is avoided by having the outer edges on the clamping plates of semi-rigid construction. Patent 2,837,994 by George R. Brodie, assigned to Fred'k H. Levey Co., Inc.

ROLL TEMPERATURE CONTROL SYSTEM

These rolls, for drying ink on paper, utilize multiple streams of fluid rotating in opposite directions around the roll. This offsets interference by the moving fluids with roll rotation while improving heat distribution. Patent 2,837,833 by Edward A. Coudriet, assigned to the Inta-Roto Machine Co., Inc.

DRYING APPARATUS

Gas burners are mounted so that a web of freshly printed paper may be guided over the flame for drying the ink. The burner flames are regulated in accordance with the speed of the traveling web so that when web speed decreases, it will not be scorched and when web speed increases, there will be sufficient heat for thorough drying. Patent 2,838,296 by Raymond E. White, assigned to Bemis Bros. Bag Co.

ATTACHMENT OF GEARS TO TAPERED SHAFT ENDS

In making a keyless web drive, a bearing and gear are attached to a shaft by sliding them (singly) onto the shaft and inserting oil under pressure into a groove under the bearing or gear, thus fixing the assembly to the shaft with a shrink fit. Removal is achieved by introducing oil under pressure to expand the assembly so that is can be slipped off the shaft. Patent 2,840,399 by Charles A. Harless and Emory W. Worthington, assigned to R. Hoe & Co., Inc.

CLAMPING AND TENSIONING DEVICE

A printing plate can be clamped on the outer face of the plate cylinder of a lithographic press by this clamp. The clamp may be manipulated from the ends of the plate cylinder where there is no crowding and it permits of the full encirclement of the plate cylinder by the plate so that only a negligible portion of the working surface of the plate cylinder is unused. Patent 2,837,025 by William Pechy, assigned to American Can Co.

WEB BREAK DETECTION

The detector readily senses flaws in a web of paper being fed to a printing press, yet is insensitive to flapping movements of the web or overlapping seams. The detector may be mounted in an infinite number of positions ranging from upright to inverted without affecting its operation. Patent 2,838,303 by Orville A. Morley, assigned to McCall Corporation.

INK MOTION

In the inking of a single form roller ink is supplied through two paths, one of which contains a positively driven vibrator. The other contains an axially reciprocated vibrator which automatically adjusts its speed to maintain constant ink distribution. Area of exposed ink on the drum and roller surfaces is reduced to a minimum. Patent 2,838,995 by Emory W. Worthington, assigned to R. Hoe & Co., Inc.

PATENT SEARCHES

For Patent Research in the U.S. Patent Office, or a prompt estimate on any type of search, write

INVENTION, INC.
Munsey Bldg., Washington, D.C.

PAGE CUTOFF FOR INKING MECHANISM

This ink pumping arrangement is compact and requires no packing of a rotor shaft to prevent leakage. It resembles the Schmidt patent, No. 1,348,900, but has a vertical shaft journaled in a bar in the housing wall to give movement to the bars. It carries a rank-pin forming a "scotch yoke" connection for moving the bars to return ink to the reservoir. Patent 2,838,996 by Emory W. Worthington and Patrick A. Walsh, assigned to R. Hoe & Co., Inc.

NUMBERING ATTACHMENT FOR OFFSET PRESS

This attachment, suitable for printing numbers in numerical order on sheets of paper as they are fed through a press,

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which may be of the Davidson type, consists of wheels bearing numbers and an impression cylinder. If the press mis-feeds or non-feeds, an arm causes a latch to rotate so as to hold the impression cylinder of the mechanism out of printing position. Patent 2,839,991 by Arnold H. Rothoff, assigned to Dixie Type and Supply Co.

OFFSET PRINTING MACHINE

An offset cylinder is mounted on a rotatable axis to coact with master and impression cylinders to transfer an inked image to a sheet. If sheet mis-feeds, feeler fingers activate a latch which moves the offset cylinder out of contact with the impression and master cylinders. Patent 2,839,992 by Lawrence H. Morse, assigned to Addressograph-Multigraph Corp.

REGISTRATION CONTROL OR INDICATING DEVICE

This device relates to continuously maintaining the color registration in multicolor high speed printing presses. One color is printed on the sheet at one station, and another color at another station. Any deviation in the predetermined spatial relationship of the two colors will cause a different electric signal in the photoelectric sensing device. Patent 2,840,370 by Carl M. Noble, assigned to Electric Eye Equipment Co.

CORRECTION DEVICE FOR COLOR REGISTER

This electronic device maintains registry in printing on multicolor presses. Any registry deviation causes a charge to be placed on a capacitor. When sufficient charges have accumulated, a correction is actuated by discharge of the capacitor. Random vibrations, which need not be corrected, cancel out on the capacitor. Patent 2,840,371 by Joseph C. Frommer, assigned to Electric Eye Equipment Co.

AUTOMATIC CONTROL SYSTEM

The device relates to automatic control for maintaining in-register multi-color printing operations. An operator adjusts the press to in-register position. The monitoring devices, which have been adjusted to signal coincidence, will now maintain in-register conditions. Patent 2,840,372 by Richard J. Alhand, assigned to Electric Eye Equipment Co.

Feeding, Folding, Delivery:

WEB TENSION CONTROL

The control is in the form of a rapid acting brake and adjustable spindle mechanism used in a frame which carries a rolled web of paper. The brake uses a chain which circumscribes a flexible steel brake shoe having brake linings almost completely circumscribing a rotatable brake drum. Patent 2,838,252 by Julius J. Tomasch.

ROLL UNWINDING CONTROL SYSTEM

The tension on a roll of paper as it is being unwound can be controlled by this system, which uses a revolution counter which generates electric pulses for actuating a ratchet mechanism. The ratchet mechanism in turn drives a rheostat controlling the brakes on the roll stand. Patent 2,838,253 by Paul W. Jacobsen, assigned to H. G. Weber & Co.

SHEET FEEDING APPARATUS

All of the elements of the apparatus, including the pile or sheet supply height testing member or feeler, are closely associated as a single unit, thus insuring accurate operation of the mechanism and control of the pile or sheet supply elevator. This enables the apparatus to be used singly or in duplicate for different size sheet feeders. Patent 2,838,306 by Leo C. Williams, assigned to Miehle-Goss-Dexter, Incorporated.

Miscellaneous:

PAPER WINDING MACHINE

The machine combines the desirable features of hydraulic and pneumatic systems into a single mechanism for urging a reel spool resiliently against a drum during a winding operation and, when it is desired to change to a new spool, the filled spool and its driving drum are separated an equal amount at their ends by means of hydraulic pressure. Patent 2,837,293 by Everett W. Clem, assigned to Rice Barton Corp.

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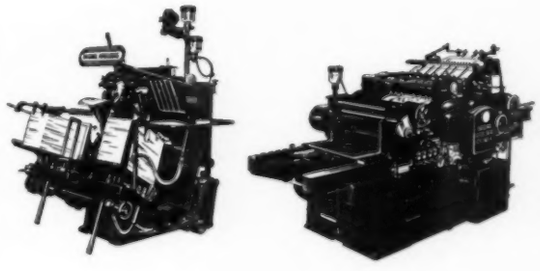

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EQUIPMENT
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REPORTS

Linotype Installations

Mergenthaler Linotype Co. reports the following installations:

Comet Linotype—Lebanon (Pa.) *News;* Toronto (Ont.) *Star,* (2); Madisonville (Ky.) *Messenger;* Fort Lauderdale (Fla.) *News,* (3); Jenkintown (Pa.) *Times Chronicle;* Hamilton (Ont.) *Spectator;* Dinuba (Calif.) *Sentinel;* Winchester (Ind.) *News,* and Rochester (N. Y.) *Times-Union.*

Model 29 *Linotype*—Union Central Life Insurance Co., Cincinnati, O. and The Maqua Company, Schenectady, N. Y. (2).

Model 30 *Linotype*—Anderson (Ind.) *Bulletin* and *Herald.*

Model 31 *Linotype*—Montreal (Que.) *Petit Journal;* Roanoke (Va.) *Times* and *World News;* C. William Gray, Washington, D. C.: Axminster Mfg. Corp., Yonkers, N. Y.; Rosary Press, Somerset, (O.) and Pinchpenny Press, Berkeley, Calif.

Model 33 *Rangemaster Linotype*—Pascagoula (Miss.) *Chronicle-Star* and *Advertiser.*

Model 35 *Rangemaster Linotype*—New Bern (N. C.) *Sun-Journal;* Roanoke (Va.) *Times* and *World News;* Easton (Pa.) *Express;* St. Thomas (Ont.) *Times-Journal;* Las Vegas (Nev.) *Sun;* Montreal (Que.) *Monitor;* New Castle (Pa.) *News;* Elizabethtown (Ky.) *Hardin County Enterprise,* and Vallejo (Calif.) *Times-Herald* and *News-Chronicle.*

Model 34 *Rangemaster Linotype*—Chillicothe (O.) *Gazette.*

Model 36 *Rangemaster Linotypes*: Green Bay (Wis.) *Press-Gazette.*

Newspapers that have changed to a new Linotype face include the following: To *Corona*: Chatham (N. Y.) *Courier;* Elizabeth (N.J.) *Journal;* Concord (N. C.) *Tribune;* Xenia (O.) *Gazette;* Santa Rosa (Calif.) *Press Democrat* (plus new Spartan Book for classified).

ATF Installations

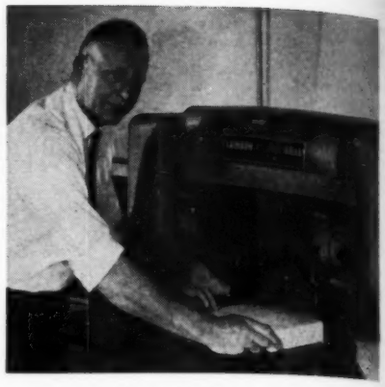
American Type Founders Co., Inc. has announced the following installations:

ATF Chief 15 *Offset Press*—Super Printing Co., Oceanside, L. I., N. Y.; Scriptor Shop, Freeport, L. I., N. Y.; University Photo Offset Co., Inc., New York, N. Y., and John Mouner Assoc., West New Brighton, L. I., N. Y.

ATF Chief 20 *Offset Press*—Santee Music Press, Inc., New York, N. Y.

ATF Chief 22 *Offset Press*—Sun-Ray Press, New York, N. Y. and Ira S. Kahn, Newark, N. J.

ATF Super Chief Offset Press—Colebrook Press, Inc., New York, N. Y.



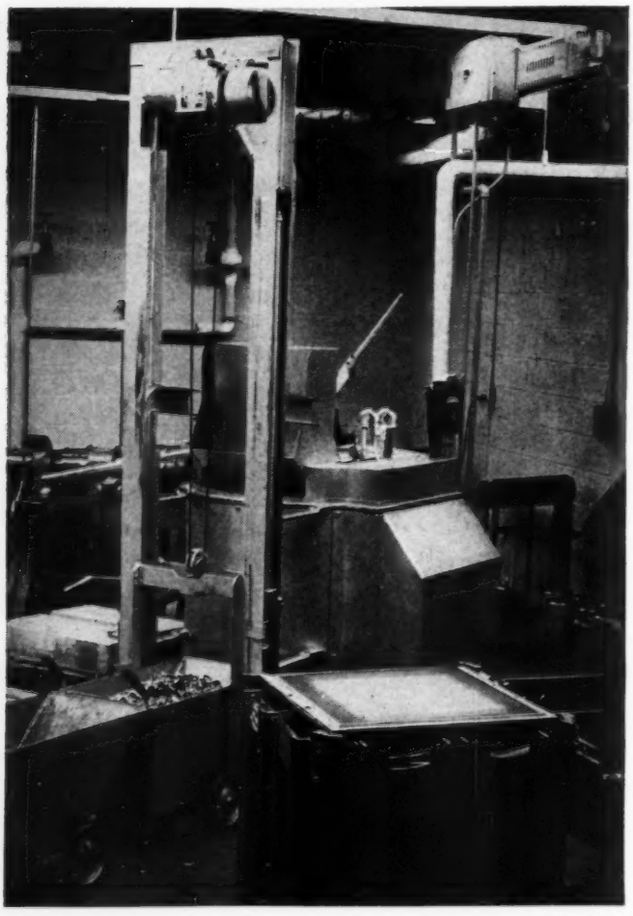
Lawson Drill Installed — A Lawson Hi-Speed multiple head drill has been installed at Henry S. Wolkins Co., Inc., Boston. Trying out the new machine is A. F. C. Maertins, president and treasurer of Wolkins.

ATF Chief 29 *Offset Press*—Gould Offset Co., New York, N. Y. and Grieco Printing Co., Brooklyn, N. Y.

Lawson Installations

The Lawson Company, Div. Miehle-Goss-Dexter, Inc., has reported the following installations:

Lawson Hi-Speed Multiple Head Drill—Henry S. Wolkins Co., Inc., Boston, and National Carbon Coated Paper Co., Sturgis, Mich.



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The Kemp Remelt Pot with Automatic Metal Loader can save hours of time and labor . . . slash handling costs in remelt operations. Scrap metal is collected in the truck, then wheeled to the loader where a touch of a button lifts and gently slides it into the pot.

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Your Kemp Representative will give you complete details on gas or electric heated Kemp Stereo and Remelt Pots. Or write direct for Bulletin IE-9. The C. M. Kemp Mfg. Co., 405 E. Oliver St., Baltimore 2, Md.

KEMP OF BALTIMORE

Kemp Obround Stereo Pot

For More Information Circle 198 on Reader Service Card

MEETINGS for the PRINTING INDUSTRY

American Photoengravers Assoc.—1958 Conv., Hotel Netherland Hilton, Cincinnati, O., Oct. 13-15. Exec. Secy. Frank J. Schreiber, 166 W. Van Buren St., Chicago 4.

ANPA Mechanical Conf.—1959 Conf., Hotel Morrison, Chicago, June 21-25. Mgr. Richard E. Lewis, ANPA Mechanical Dept., 750 Third Ave., New York 17, N. Y.

Book Manufacturers' Institute—1958 Conv., Greenbrier Hotel, White Sulphur Springs, W. Va., Oct. 8-11. Secy. Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Educational Graphic Arts Exposition—Coliseum, New York, N. Y., Sept. 6-12, 1959. Gen. Mgr. A. E. Giegengack, 5600 Massachusetts Ave., N.W., Washington 16, D. C.

Fifth District Craftsmen's Conf.—1959 Conf., Hotel Miami, Dayton, O., May 22-23. Secy.-Treas. George W. Thompson, Toledo Colortype Co., 1711 Jefferson Ave., Toledo, O.

Graphic Arts Trade Assoc. Executives—Managing Director, William H. Gary, Printing Industry of Twin Cities, Inc., 2645 University Ave., St. Paul 14, Minn.

Gravure Technical Assoc.—1959 Conv., Drake Hotel, Chicago, Mar. 6-8. Exec. Secy. Edward S. St. John, Room 4800, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Mechanical Conf.—1959 Conf., Hotel Statler, Detroit, Jan. 18-20. Secy.-Treas. Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press*.

Illinois Newspaper Mechanical Conf.—1958 Conf., Hotel Orlando, Decatur, Ill., Sept. 13-14. Secy.-Treas. Arthur Kramer, Joliet (Ill.) *Herald-News*.

Intl. Assoc. Electrotypers & Stereotypers—1958 Conf., Hotel Chalfonte-Haddon Hall, Atlantic City, N. J., Sept. 8-11. Exec. Secy. Floyd C. Larson, 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen—1959 Conv., Hotel Statler, New York, N. Y., Sept. 5-9. Exec. Secy. Pearl E. Oldt, 411 Oak St., Cincinnati 19, O.

Intl. Graphic Arts Education Assoc.—Exec. Secy. Samuel M. Burt, 5728 Connecticut Ave., N.W., Washington 15, D. C.

Intl. Printers Supply Salesmen's Guild—Secy. Francis J. Tominey, *New England Printer & Lithographer*, 470 Atlantic Ave., Boston 10, Mass.

Intl. Typographic Composition Assoc.—1958 Conv., Ambassador Hotel, Los Angeles, Calif., Oct. 14-17. Exec. Secy. W. E. Switzer, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conf.—Secy.-Treas. Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald*.

Kansas-Missouri Newspaper Mechanical Conf.—1958 Conf., Town House Hotel, Kansas City, Kans., Sept. 6-7. Kansas Gen. Mgr., Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kans. Missouri Secy.-Treas. William A. Bray, Missouri Press Assoc., 115 Walter Williams Hall, Columbia, Mo.

Lithographers National Assoc., Inc.—1959 Conv., Hotel Greenbrier, White Sulphur Springs, W. Va., Apr. 13-16. Exec. Dir. Oscar Whitehouse, 1025 Connecticut Ave., N.W., Washington 6, D. C.

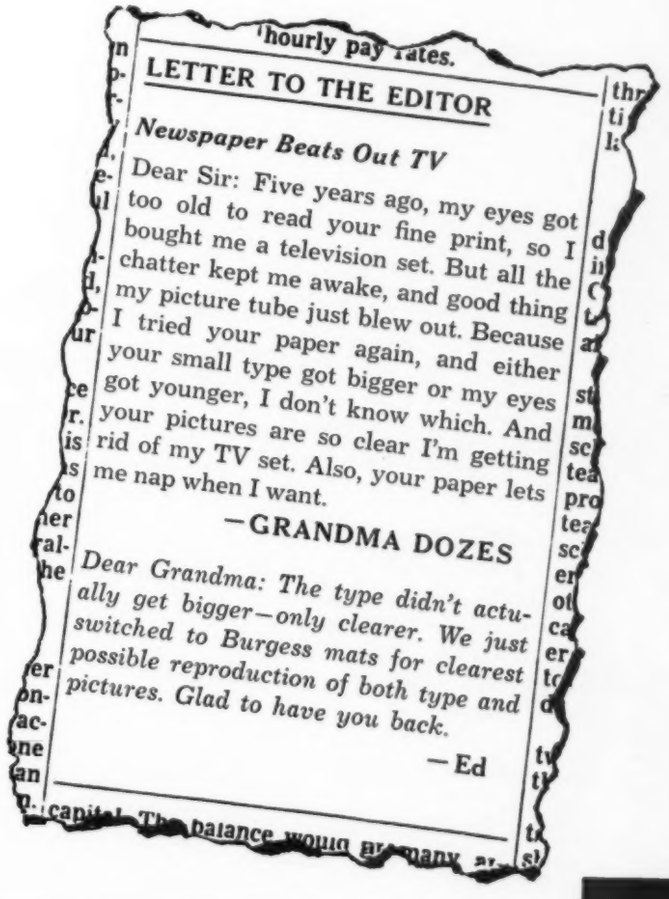
Mid-Atlantic Newspaper Mechanical Conf.—1959 Conf., Shelburne Hotel, Atlantic City, N. J., Mar. 12-14. PNPA General Mgr. Richard Dew, 2717 N. Front St., Harrisburg, Pa.

National Assoc. of Litho Clubs—1959 Conv., Twin Cities (Minneapolis-St. Paul, Minn.), June 11-13. Exec. Secy. Fred A. Schulz, Buckbee Mears Co., Toni Building, St. Paul 1, Minn.

National Assoc. of Photo-Lithographers—1958 Conv., Statler Hotel, Boston, Mass., Sept. 10-13. Exec. Dir. Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Paper Trade Assoc.—1959 Meeting, Waldorf Astoria Hotel, New York, N. Y., Apr. 1-3. Secy. J. H. Londergan, 220 E. 42nd St., New York 17, N. Y.

National Printing Equipment Assoc., Inc.—1958 Meeting, Statler Hotel, Dallas, Tex., Oct. 13-16. Secy. James E. Bennet, 140 Nassau St., New York 38, N. Y.


hourly pay rates.
LETTER TO THE EDITOR
Newspaper Beats Out TV
Dear Sir: Five years ago, my eyes got too old to read your fine print, so I bought me a television set. But all the chatter kept me awake, and good thing my picture tube just blew out. Because I tried your paper again, and either your small type got bigger or my eyes got younger, I don't know which. And your pictures are so clear I'm getting rid of my TV set. Also, your paper lets me nap when I want.
—GRANDMA DOZES
Dear Grandma: The type didn't actually get bigger—only clearer. We just switched to Burgess mats for clearest possible reproduction of both type and pictures. Glad to have you back.
—Ed

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Manufacturers and Distributors of

Burgess Chrome and Supreme Tone-Tex Mats, Freeport, Illinois

BURGESS Chrome MATS

Canadian Representative, R. M. Louson & Co., Ltd.,
Kennedy Road, Agincourt, Ontario

For More Information Circle 26 on Reader Service Card

New Building with Modern Equipment — Guillermo Klappenbach, technical director, Buenos Aires (Argentina) *La Nacion*, recently toured U. S. newspaper plants. Seated are: Klappenbach; C. S. Reilly, Goss Americas president; Emilio B. Varela, architect; standing: Vice Pres. A. J. Krohn, Goss Americas, and Vice Pres. Duke St. Marie, Goss International.

National Safety Council Printing and Publishing Section—1959 Meeting, Hotel Conrad Hilton, Chicago, Oct. 20-24. Staff Rep. Harry C. Johnson, National Safety Council, 425 N. Michigan Ave., Chicago 11.

New England Composing Room Executives Assoc. — Secy. Lewis R. Greene, Westerly (R. I.) *Sun*.

New England Newspaper Mechanical Conf.—1958 Conf., Statler Hotel, Boston, Oct. 18-19. Secy.-Treas. Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day*.

Newspaper ROP Color Conf.—1958 Conf., Waldorf Astoria Hotel, New York, N. Y., Sept. 15-17. Secy Arthur Brashears, American Assoc. of Newspaper Representatives, 141 E. 44th St., New York, N. Y.

New York State Capital District Mechanical Conf.—Dir. Floyd Laurenty, Albany (N. Y.) *Times-Union*.

Northwest Mechanical Conf.—Secy.-Treas. Ralph N. Carson, Linecasting Instructor, Dunwoody Industrial Institute, 818 Wayzata Blvd., Minneapolis, Minn.

Pacific Newspaper Mechanical Conf.—1958 Conf., Mark Hopkins Hotel, San Francisco, Calif., Sept. 5-7. Secy. Ed Maggi, Phillips & Van Orden Co., 4th & Berry Sts., San Francisco, Calif.

Packaging Institute Assoc.—1958 Meeting, Edgewater Beach Hotel, Chicago, Oct. 13-15. Exec. Dir. Chas. A. Feld, 342 Madison Ave., New York 17, N. Y.

Printing Industry of America—1958 Conv., Statler Hotel, Dallas, Tex., Oct. 13-16. Gen. Mgr. Bernard Taymans, 5728 Connecticut Ave., N.W., Washington 15, D.C.

Research and Engineering Council—1959 Conf., Sheraton McAlpin Hotel, New York, N. Y., May 18-20. Managing Dir. Robert E. Rossell, 5728 Connecticut Ave. N.W., Washington 15, D.C.

Screen Process Printing Assoc., Intl.—1959 Conv., Hotel Statler, New York, N. Y., Oct. 31-Nov. 2. Exec. Secy. Robert H. Blundred, 549 W. Randolph St., Chicago 6.

SNPA (Eastern Div.) Mechanical Conf.—Grady M. Lemons, Southern Newspaper Publishers Assoc., P.O. Box 1569, Chattanooga 1, Tenn.

SNPA (Western Div.) Mechanical Conf.—1959 Conf. Hotel Texas, Fort Worth, Tex., Mar. 8-10. Secy. Walter Johnson, jr., P.O. Box 1569, Chattanooga 1, Tenn.

Southern Graphic Arts Assoc. — 1959 Conv., Hotel Robert Meyer, Jacksonville, Fla., Apr. 27-29. Secy. Charles E. Kennedy, 1514 South St., Nashville 2, Tenn.

Technical Assoc. of the Graphic Arts—1959 Conv., Hotel Mangor, Rochester, N. Y., June 14-16. Secy.-Treas. B. L. Sites, 421 Sunnyside Ave., Elmhurst, Ill.

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PRE-SHRINK and FLAT SCORCHER

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AVAILABLE WITH ONE OR TWO TIMERS

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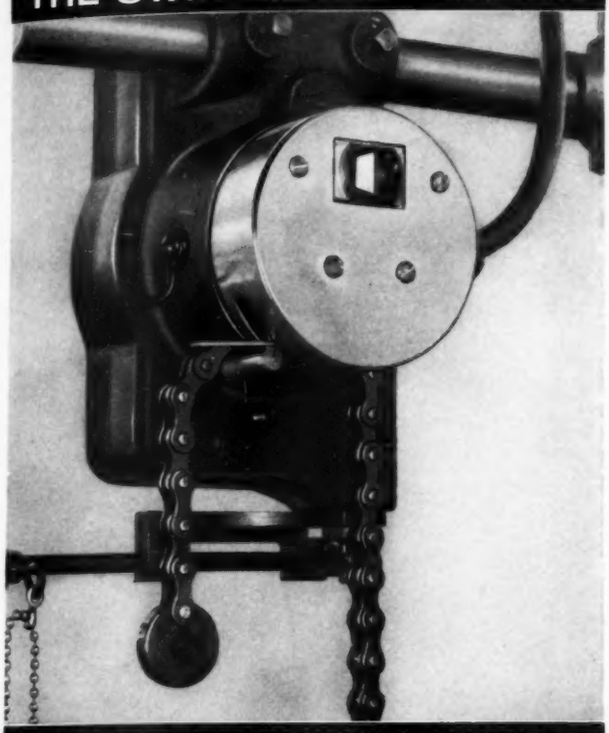
THE STAR METAL FEEDER



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a signal actuator

New Star Metal Feeders may be ordered with Signal Actuators as extra equipment. This efficient, sturdy device also attaches easily to the back of the Star Feeders already in use and can be used in a variety of ways, according to your requirements, to let you know when the pig needs replacing.

As illustrated, the trip finger on the chain contacts a lever when the pig is low. This lever operates a Microswitch to give the desired warning.

The Signal Actuator will turn off the operator's light or turn on a buzzer when the next pig is needed. It can also be used to operate the "trouble" light on the top of the machine or to signal the machinist's panel board in larger shops.

Order your Star Feeder Signal Set now and eliminate the danger of running your metal pot too low. Specify Part No. M-4-J.

NOTE: The Signal Set illustrated has been silver-finished. Stock Signal Sets are black, to match the Star Feeder.

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For More Information Circle 167 on Reader Service Card

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Please send folder on low cost ProType.

Name_____

Company_____

Address_____

City_____ Zone_____ State_____

For More Information Circle 193 on Reader Service Card

Literature

(Continued from Page 30)

phase micrometers is described in a bulletin being offered by Champlain Company, Inc. Color-to-color and cut-to-print mis-register are said to be corrected instantaneously in direct proportion to the error. Device can be positioned in pressroom or remote location. Circle No. 314 on Reader Service Card.

ANTI-OFFSET SPRAY UNITS

Pneuma-Flo Systems, Inc. has released a two color folder to describe its offset preventing equipment. System includes spray gun, nozzles, powder, and mounting brackets. Six pages inserted in folder include illustrations of installations on various printing presses. Circle No. 336 on Reader Service Card.

INK MIST INFORMATION

Information on ink mist delivered at the 1958 ANPA Mechanical Conference by Stanley H. Southard, chief chemist, Geo. H. Morrill Co., Div. Sun Chemical Corp., has been made available in a four page folder published by Morrill. Included in *Ink Mist and the Pressman's Hat* is material covering research, tests and testing devices relating to ink mist. Circle No. 337 on Reader Service Card.

CAMBRIDGE HYGROSCOPE

The Cambridge LTF Model Paper Hygroscope is described in Bulletin M353 issued by Cambridge Instrument Co., Inc. Device indicates difference between pressroom air and paper stock in terms of relative humidity. Circle No. 328 on Reader Service Card.

ALBANY LUBRICANT BULLETIN

Adam Cook's Sons, Inc. is offering its Service Bulletin No. 10 in which its tallow lubricants are described. Greases and oils for pressure fittings, cams, chain drives and other press friction areas are presented. Circle No. 329 on Reader Service Card.

GOSS UNIVERSAL PRESS

Engineering and operating features of the Goss Universal newspaper press are described in an eight page bulletin prepared by The Goss Co., Div. Miehle-Goss-Dexter, Inc. Drawings and photographs are used to describe the semicylindrical unit style press. Some of the features included are Slide-A-Pan ink fountain, continuous ink feed, electric roll rewind and Universal folder. Circle No. 349 on Reader Service Card.

ANTI-OXIDANT FOR INK

Ink-O-Saver anti-skinning spray for printing ink is described in literature available from Acrolite Products, Inc. Spray is said to be recommended for applying to press rollers just before washups. Product is said to immediately soften ink and permit it to be easily removed with washup solvents. Circle No. 350 on Reader Service Card.

MILLER 21 BY 28 TWO COLOR PRESS

A handsomely printed and colorfully designed 16 page booklet has been published by Miller Printing Machinery Co. to describe its two color automatic cylinder letterpress known as the Miller 21 in. by 28 in. TW. Complete specifications and illustrations, including two in process color, are contained in booklet. Circle No. 351 on Reader Service Card.

C & P AUTOMATIC PRESS

A bulletin available from Chandler and Price Co. is descriptive of the C&P 14½ in. by 22 in. Super Automatic platen press. Press is said to be designed for printing, die cutting, stamping, embossing, and roll leafing. Circle No. 316 on Reader Service Card.

SHEET CLEANER BULLETIN

J. E. Doyle Co. has made a bulletin available in which Doyle sheet cleaners are illustrated and described. Cleaners remove lint and dust from paper before it enters press. Circle No. 334 on Reader Service Card.

NEWSPAPER PRESS BLANKETS

Newspaper press blankets and other equipment and supplies for stereotype, composing and pressrooms are illustrated and described in Catalog No. 51 being offered by New England Newspaper Supply Co., Div. New England Fibre Blanket Co. Circle No. 324 on Reader Service Card.

LINOPRESS LITERATURE

Deskfinder Company is offering literature descriptive of its Linopress imprinting machine. Machine operates with Linotype slugs from 6 to 36 pts. and 12 to 30 picas. Slugs advance to printing position and eject onto a galley. Stock is hand fed. Stock from thin card up to thick booklet may be imprinted. Circle No. 325 on Reader Service Card.

IDEAL ROLLER FOLDER

Illustrations of offset presses equipped with Ideal rollers are included in a two color folder made available by Ideal Roller & Mfg. Co. Circle No. 361 on Reader Service Card.

WEBFED VS. SHEETFED

A comparison of web offset printing costs with sheetfed costs, both letterpress and offset, are presented in a booklet available from American Type Founders Web Div. Circle No. 306 on Reader Service Card.

GENERAL ELECTRIC D. C. PRESS DRIVE

A bulletin is being offered by General Electric Co. to describe its Inductrol d.c. printing press drive. Induction voltage regulator is said to have a minimum of moving parts and provides complete voltage adjustment for full speed control, which makes an infinite number of speeds possible. Control equipment is compactly housed and can be installed in any location. No external d.c. supply is required. Circle No. 323 on Reader Service Card.

3M DAMPENING ROLLER SYSTEM

Instructions for the 3M system of changing offset dampener covers have been prepared by Minnesota Mining and Mfg. Co. System utilizes a contractible rubber core and a specially designed composition fibre sleeve. Change is said to be made without disturbing dampener settings to any extent. General handling as well as actual operations are discussed in literature. Circle No. 356 on Reader Service Card.

ENGINEERING FOR
THE GRAPHIC ARTS

TO MEET GROWTH REQUIREMENTS

- ANALYSIS OF PRESENT OPERATIONS
- REPORTS AND RECOMMENDATIONS
- PLANS AND SPECIFICATIONS
  - plant rearrangement
  - plant extension
  - new plant
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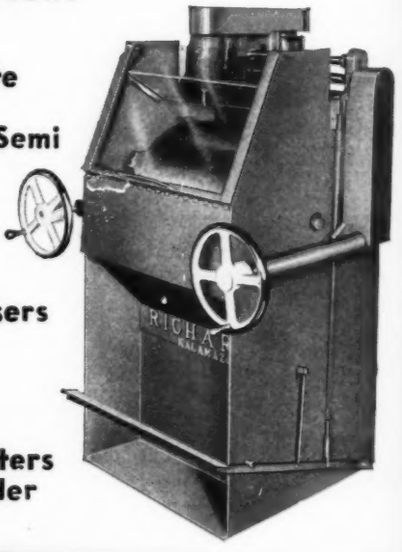

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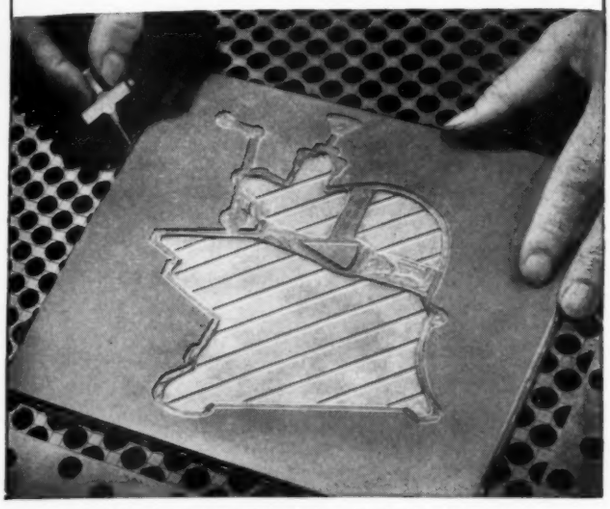

For More Information Circle 147 on Reader Service Card

BEVERIDGE MATS CLICK WITH OLD-TIMERS, TOO!

● An old-timer in the stereotype field is an honored mechanical executive with years of practical experience. That's why old-timers rely on Beveridge Mats. They know from years of experience that they can rely on Beveridge quality mats and unexcelled service. Old-timers and *new-timers* alike find these mats provide clean release of plate, deep molding qualities and sharp faithful reproductions. Can we talk?

New Products Division of
THE BEVERIDGE PAPER COMPANY
705 W. Washington Street
Indianapolis 4, Indiana

For More Information Circle 20 on Reader Service Card

Bindery

COLLATING MACHINE MOVIE

A color film entitled *Speed-Klect in Action* has been produced by Didde-Glaser, Inc. and is being made available free of charge to any firm interested. Speed-Klect collating machine operations are shown. Film is 16 mm. sound, and runs 11 min. Circle No. 310 on Reader Service Card.

DEXTER BINDERY BOOKLET

The fourth booklet in a series of four, in which Dexter McCain-Christensen bindery equipment is discussed, has been made available by Dexter Company, Div. Miehle-Goss-Dexter, Inc. Equipment is used in combination to insert, stitch, and trim signatures automatically. Circle No. 357 on Reader Service Card.

PAPER CUTTER KNIVES

Paper cutter knives featuring a Mirro-Keen finish are illustrated and described in a four page folder distributed by Simonds Worden White Co. Knife finish is said to add to appearance and cutting characteristics. Firm has standard and special bevel blades available. Circle No. 353 on Reader Service Card.

SOUTHWORTH LIFT TABLES

Portable and stationary lift tables are presented in literature available from Southworth Machine Co. Tables range from 2000 lb. to 16,000 lb. capacities in a variety of sizes and extensions. Literature also includes information on power punches, corner cutters, envelope press and skid turner. Circle No. 322 on Reader Service Card.

Miscellaneous

ROLLER CHAINS AND SPROCKETS BOOK

Link-Belt Company has published a 154 page comprehensive book entitled *Link-Belt Precision Steel Roller Chains and Sprockets.* Available without charge, Book No. 2657 includes detailed engineering data which illustrate versatility of roller chains in a wide range of applications. Also included are formulas, charts and diagrams to aid in selection of chains for various applications. A 66 page section is devoted to power transmission chains and sprockets, while a 26 page section lists chains and attachments for conveying applications. Circle No. 348 on Reader Service Card.

STATIC ELIMINATING DEVICES

Experiments with static are included in a two color four page folder released by The Simco Co. A sheet of Mylar polyester film is attached to folder with directions and illustrations for performing six different experiments with static using the film. Various types of static eliminating devices are shown mounted on different pieces of equipment. Circle No. 354 on Reader Service Card.

ROTARY HEADS AND TYPOGRAPHS

A booklet being offered by Wm. A. Force & Co. is descriptive of its rotary numbering heads and typographs. Type high and over type high models are available with either Roman or gothic figures. Machines have hardened steel wearing parts. Circle No. 319 on Reader Service Card.

BUNDLE TYING MACHINE

National Bundle Tyer Co. is offering literature descriptive of Saxmayer bundle tying equipment. Machines are both automatic and manually operated and utilize jute or sisal in single or cross-tie operations. Circle No. 332 on Reader Service Card.

ALGRIP FLOOR PLATE

Alan Wood Steel Co. has released its A. W. Algrip booklet, AL-E30. Algrip abrasive rolled steel floor plate is recommended for safe footing wherever slipping hazards exist in a plant. Circle No. 312 on Reader Service Card.

GERRARD STRAPPING MACHINE

The Gerrard Model 12 automatic steel strapping machine is illustrated and described in a folder issued by Gerrard Steel Strapping Dept., United States Steel Supply Div., United States Steel Co. Included with folder is a 36 page *Blue Book of Packaging* in which details on Gerrard products are presented. Circle No. 313 on Reader Service Card.

HELICAL GEAR DRIVES

Folder 2651-A, a six page supplement to Link-Belt Book 2651, has been made available by Link-Belt Company. Described are two sizes of double reduction helical gear drives and three sizes of triple reduction helical gear drives. Also included are horsepower ratings, dimensions, mounting information and construction data of the quadruple reduction speed reducers. Circle No. 355 on Reader Service Card.

LITHOGRAPHIC SUPPLIES CATALOG

A pocket size catalog of lithographic supplies and equipment is available from General Printing Ink Co., Div. Sun Chemical Corp. Indexed and plastic hinged, the Buyer's Guide is divided into three general sections: Art, Plate and Pressroom Chemicals; Plate and Pressroom Supplies; and Lithographic Equipment. Purpose, price and quantity details for over 300 items are included. Equipment described is that of Rutherford Machinery Co., another Sun division. Circle No. 345 on Reader Service Card.

VIBRATION CONTROL BOOKLET

Facts About Anchoring Your Printing Machinery with Unisorb is the title of a booklet prepared by Felters Company. Booklet represents results of study on vibration control and isolation of equipment. Included are examples, case histories, cost reduction results, vibration studies and deflection curves. Circle No. 341 on Reader Service Card.

TEMPERATURE PROTECTIVE DEVICE

Illinois Testing Laboratories, Inc. has published an eight page, two color bulletin, No. 2002, in which the Ainor Pyrotac is described. Instrument is an excess temperature protective device to sound an alarm and/or shut off power supply to a piece of equipment when safe maximum temperature is reached. Specifications, wiring diagrams and operating principles are included in literature. Circle No. 342 on Reader Service Card.

PENN/BRITE SAMPLES

A swatch book and samples of Penn/Brite offset paper are available from New York & Pennsylvania Co. Whiteness, brightness, bulk, and formation are said to have been improved. Circle No. 307 on Reader Service Card.

PRODUCTION PRODUCTS FOR THE GRAPHIC ARTS

Chesley F. Carlson Company

CARLSON HI-LO NEWSPAPER CHASE CARLSON SHELL PLATE FINISHER

Sold by the finest representatives in the newspaper field.

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For More Information Circle 33 on Reader Service Card

Production Control

(Continued from Page 35)

black, which indicate that operations and materials are either on schedule, or if varying from it, how much.

"When a job is completed and all orders are filled, we tear down the negative flats and file each magazine by date and page number. This makes for easy accessibility for pickup material that is to be re-used in succeeding issues," relates Mrs. Greene.

"We also maintain a complete file of mailing information for each magazine and make up mailing reports for post office and customer as each job leaves the bindery," she continued.

As each publication is completed a marked copy is prepared for the billing department showing all work that was done. "This gives a clear picture of production costs so they can be compared with the estimated price as quoted for the job," Mrs. Greene explains, "This way, management is better able to pin-point the handling costs in various departments."

Commercial Printing Operation

The operation of the Publications Department dovetails neatly into the commercial printing handled by the plant. Work, other than periodical publications, is handled by the plant's production manager, Fred Todd.

Keeping tabs on commercial jobs in the plant is done through visual inspection of each plant department at least twice each day and through study of job ticket copies which the production manager has available at his desk.

Perhaps the most important form used by any printing company is its job ticket. American Press places such importance on its job ticket that it utilizes the form in quadruplicate. The traditional job envelope is one part of the ticket, and it follows the job through the plant.

An exact duplicate, printed in red, is placed in a clip board on the production manager's desk to serve as a guide to job progress. A green copy is sent to the cutting department for stock preparation. The fourth and final copy, printed in black, is dispatched to the purchasing department to facilitate materials ordering or to enable a current inventory record to be kept.

Handling Rush Work

Rush work that can't be delayed while the more complete, permanent ticket is being written up, is sent into the plant with a preliminary job ticket, which contains enough pertinent information to get production moving. When the complete ticket is written up, it joins

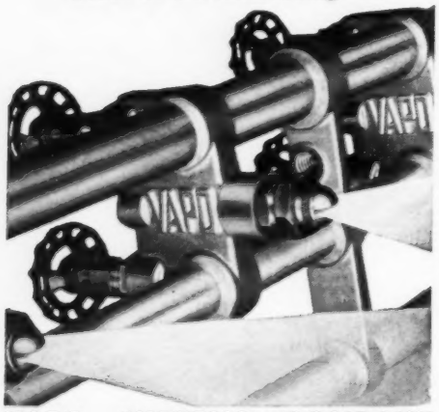
PAPER CONDITIONING

The Modern Efficient Economical Way

Built to operate at Any Machine Speed

Systems for Gravure Printing, to set water set inks, Better register on carton printing, Curl Control in laminating.

For any press or machine width in the converting field



VAPO SYSTEMS COMPANY
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For More Information Circle 237 on Reader Service Card

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TRIK®
for work-&-turn litho and letterpress . . .
eliminates messy non-offset spray.
1 lb. can $2.20
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Mfrs. of Glazcote, 20/20 Overprint Varnish, 33 & 0-33
Ink Conditioners

Circle 34 on Reader Service Card

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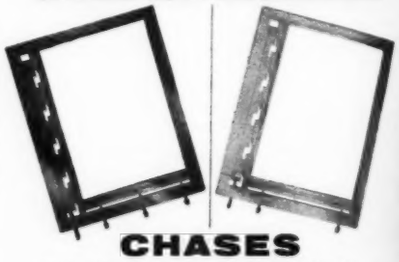

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the preliminary under the same number, and the two proceed as one.

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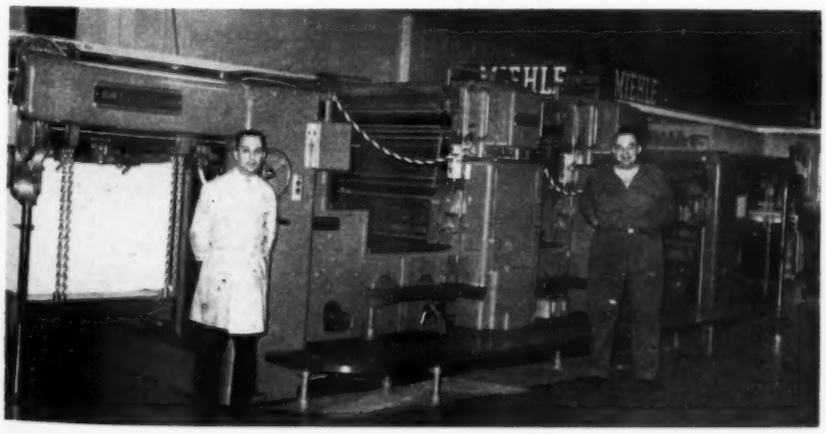

Miehle Presses Exhibited at DRUPA—Included among equipment displays at the DRUPA exposition in Dusseldorf, Germany last May was the exhibit space devoted to two Miehle Vertical presses and one Miehle No. 61 two color letter press. It is reported that approx. 450,000 people from all over the world attended. A large number were American printers.

Multiple Etching

(Continued from Page 43)

Naturally, since a double coating of powder is being laid on the plate, it stands to reason that the bottom of the etch will not clean-up as quickly as the etcher has been accustomed to. If the depth of etch of the first bite is not altered, it will be necessary to go too far on the second bite to clean up the bottom, thereby causing the powder to clog the bottom during the third bite. The amount of cut-back on the depth of the first bite can best be determined by trial and error, although I have found one-quarter cut-back to be satisfactory. This is to say, if your normal etching time for the first bite when using conventional procedure has been 20 sec., then the adjusted etching time would be 15 sec. In any event, the depth of the first bite should be such that the bottom of the plate will clean up during the second bite at a depth which is approx. two-fifths of the desired depth ultimately wanted after the third bite and re-etch. In other words, if you

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are etching a 60 screen halftone (three bites) and you desire a total depth of 0.006 in. before re-etching, then the depth of etch (first and second bites combined) should not be more than 0.003 in. at most. In this case, the bottom should be clear of powder at a depth of 0.003 in. If the bottom at this depth can't be cleaned, then depth of first bite should be decreased.

In the example cited, the first bite should be approx. 0.001 in. This cut-back in etched depth of the first bite is an advantage since it allows more perfect retention of the dot without appreciable lateral reduction of dot surface.

The accompanying table of etching depths in inches for each bite and for most used screens will be found OK if used with a tight powdering and double powdering.

Screen	1st Bite	2nd Bite	3rd Bite	Re-etch
60	0.001	0.003	0.006	0.0075
65	0.00087	0.0026	0.0052	0.0065
85	0.00066	0.00198	0.00396	0.005
100	0.00044	0.00132	0.00264	0.0032
110	0.00038	0.00113	0.00225	0.0028

(These depths are based on the Schotanus scale of halftone depths and indicate the depth of etch from the surface to the bottom of the etch at the end of each bite and do not indicate the depth of each individual bite.)

Prevents Harsh Tonal Gradation

The use of the double powdering technique will go a long way to prevent so-called harsh breaks in the middletones where the dot changes from a connected dot to an isolated dot. Smooth gradation of tones can be assured if the fine connectors between the dots in the middletones are preserved. This trouble is often the result of the premature break-through of these connectors due to imperfect powder protection.

This frequently occurs if the plate is brushed during the second bite to clean up the bottom. The brushing dislodges some of the powder and subsequent etching causes these thin walls to break through. If these connectors are retained during the etching exactly as they originally appeared on the metal print, then no trouble with harsh breaks need be anticipated. The double powdering technique assures

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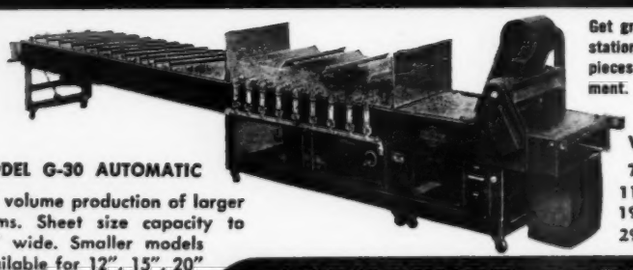

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retention of these connectors and consequent improvement in quality as a result.

The powder for the third bite is applied and etched normally, as are the additional bites if the plate is to be deep etched. A suggestion might be in order regarding the chipping of powder from lines during the final bites of deep-etched flats. The powder along a line is rather brittle after four or five bites. Therefore, any undue buckling or vibration of the plate or any subjection to strong pressure such as that exerted by compressed air or the acid spray against the plate should be avoided.

If the plate is blown dry with compressed air, do not apply too much pressure. Keep the force of the acid spray as low as possible during these final bites. A forceful spray is usually accountable for picking of the shadows of halftones on combination plates. I have found that halftones or screens on combination plates need not be painted out after the deepening of the screen to prevent shadow picking if a slow acid spray is used for deepening. This provided the double powdering technique is employed to begin with (assuming of course that a good top resist is used together with a hard dot negative).

It will also be found, when using a plastic top such as polyvinyl alcohol which requires a scumming prior to etching, that unless the plate is thoroughly scummed so that no halo remains around the dot, picking may occur during the deep etch. This is caused by the thin and weak nature of the resist around the halo which under extended etching will break through and pick or chip. This halo should be scummed completely away before etching the first bite.

Etching Machine Inadequacies

There are many etching machines in use which have no provision for slowing the acid spray. These machines are usually geared to provide a forceful spray, which is satisfactory for etching halftones but patently undesirable for deepetching, since there is always danger of damaging the halftones on a combination flat unless they are painted out with asphaltum. This can be a very time-consuming operation. Then, too, a forceful spray will tend to undercut the work more than a slow spray. This necessitates in many cases an additional powder bite to prevent undercutting and to attain sufficient depth on deep etched flats. If the etcher is forced to work with such a machine, he has no alternative but to take the necessary time to paint out the halftones and give an additional powder bite.

Some etchers have tried to slow the machine somewhat by overloading with acid solution. This will slow the machine to a certain extent, but is not advisable because of the danger of overloading the motor. The best solution is to invest in a gear reduction device or a controllable speed motor. Or, keep two machines—one for etching halftones, the other geared slower for deepetching. This arrangement is used in some shops where a large volume of work is done. It has the advantage of keeping the strength of the halftone bath at a known level over a longer period of time. This allows more control of the depth of the more critical first bites. The strength of

the deep-etch bath is not too important for the control of the depth-time factor and can be replenished as needed without any trouble.

When etching fine screen halftones such as 100-110 lines per in., the bottom of the etch might tend to be difficult to open up. To prevent this condition the plate may be swabbed halfway through the second bite with a fine grain cellulose sponge such as made by du Pont. This removes the scum (fine powder dust) from the bottom of the etch and cleans it out satisfactorily. Swabbing the plate should be avoided, however, as much as possible and is not usually necessary for coarse screens.

Additional Considerations

My preference is to give all tones up to 110 lines per in. three bites and a re-etch. I prefer a negative rather on the high side so the plate will not require too much re-etching to bring the highlight to correct printing size. A highlight dot that will reduce to the desired size with a re-etch of about one and a half times the duration of the first bite is satisfactory. About a 20% highlight is desirable. This allows sufficient re-etch to smooth off the sides of the dot for mat making and direct printing. Too much re-etch will prove entirely unsatisfactory for electrotyping since it produces depressed connectors which lie just below the printing surface. These connectors will not show in the engraver's proof but will tend to print on the production run.

In the case of combination flats having fine screens, tints, etc., it is, in my opinion, preferable to deepen the screens in two bites rather than three, since this permits cleaning the bottom and results in a clean plate for the router. Using conventional powdering techniques, this is sometimes difficult to do without chipping the work, but when the double powdering technique is employed, a wider and more homogenous powder deposit is obtained around the dot and lines, thereby permitting more clean up on the second bite. Coarse screen combinations can be given three bites to deepen the screen using the procedure as outlined for halftones.

The powdering technique employed in the multiple bite method of etching has always been subject to criticism due to the many variables connected with its use. The double powdering technique as outlined here will go a long way to solving some of the more worrisome aspects of the process. The etcher who is having trouble with rough etching will profit by investigating the merits of this technique.

Litho Ink Problems

(Continued from Page 50)

sheets in the feeder; more if possible.

(2) With the ink and water motion on impression, feed about 10 sheets and check the lay of ink on the image. If the ink appears weak, open the ink fountain one notch. Do not change key settings, and wait 2 or 3 min. for the ink to reach the form rollers.

(3) Feed another 10 sheets and note if the ink color strength is stronger. Set the keys to balance

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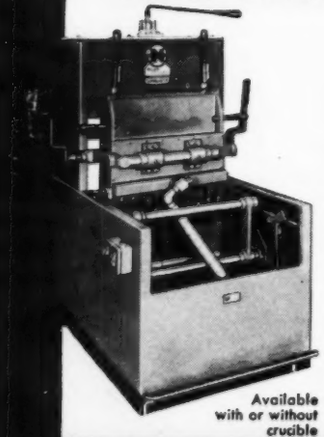

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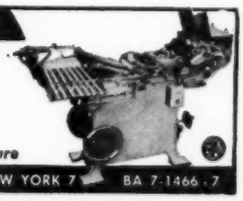

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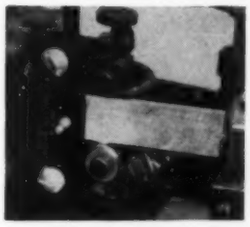

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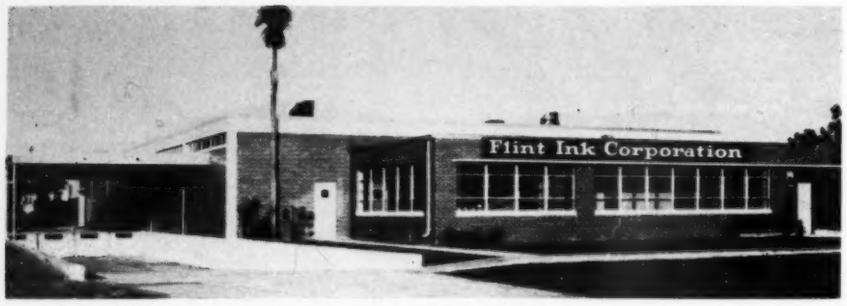

Flint Ink Opens New Plant—Flint Ink Corp. recently opened a new plant in Jacksonville, Fla. The specially designed building, comprising 24,000 sq. ft., is located at 5557 Highway Ave. The plant will be managed by Clay Mayfield and assisted technically by Byron Carlson.

the positions of the image area. Open these keys only a quarter turn at a time until the image is even in color strength. Feed a few sheets each time you change key settings in order to check the results.

(4) Once the proper color strength is obtained, check the press sheets for slur or scum. Knowing there is a minimum layer of ink on the image, open the water fountain one or possibly two notches until the background and images print sharp and clean.

(5) Each time you increase the ink you must watch for slur or toning and compensate with more water. Stronger acid will not help.

Ink and Water Balance

The fundamentals of ink and water balance are:

(1) Amount of ink delivered to the image governs amount of water needed to keep plate clean in nonprinting areas. Acid does not take care of this function.

(2) Fountain keys should not be used to govern amount of ink delivered to plate. Their function is to add or decrease ink according to image requirements across plate.

(3) Frequently, ink is forced onto the press sheet to achieve a darker color than the ink film can give. Use a darker shade of ink, thus allowing a minimum amount of ink to reach the image. Less ink and less water result in faster drying and good color strength.

(4) Excessive squeeze between the plate and the ink and dampener rollers causes the ink and water to mix. The result is excessive ink roller stripping and faster dirtying of water roller covers as well as wear on water roller covers and plate image.

Light pressure is the first requirement of ink-water balance. Minimum ink plus minimum acid plus minimum water equals ink and water balance.

Board of Directors, Graphic Arts Industry, Inc., Minneapolis, Minn., are, left to right: Frederick C. Schilplin, president, Security Blank Book and Printing Co. and president, Fritz-Cross Company, both of St. Cloud, Minn., first vice president, GAI; James M. Martin, president, Desaulniers and Co., Moline, Ill.; Clinton E. Johnston, business manager, Beloit (Wis.) *Daily News*, president, GAI; Birger Swenson, general manager, Augustana Book Concern, Rock Island, Ill., second vice president, GAI. Martin was elected to fill vacancy created by resignation of Charles S. Schmidt, who is also retiring as vice president, Desaulniers and Co.

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SEPTEMBER 1958

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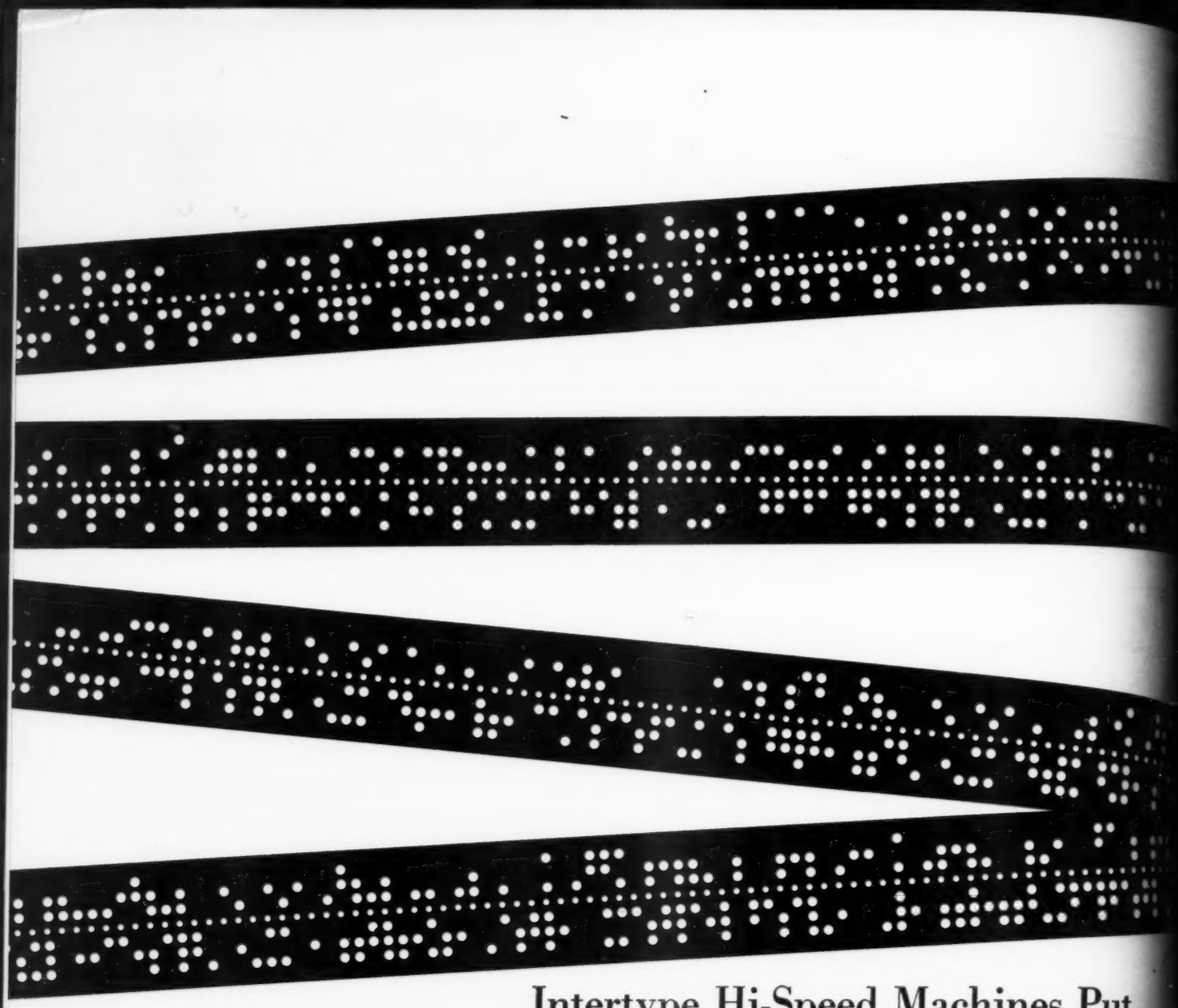

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